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TRANSACTIONS & STUDIES

of

The College of Physicians of Philadelphia

Medicine in 1776: Colonial and Revolutionary Medicine in Philadelphia*

By SAMUEL X RADBILL, M.D.†

Before July 4th, 1776, the American colonies were an integral part of the British Empire. Medical practice, like all the rest of the American culture, laws and institutions, was British, resembling that which prevailed in the British Isles. The first medical school authorized to confer medical degrees had been established at Edinburgh about 1720 and this was followed 45 years later by the first medical school here in Philadelphia in 1765. Though far removed from London, Philadelphia in 1765 had all the attributes of an English provincial town. Its population of about 25,000 was growing rapidly. By 1776 it had grown to about 40,000. When William Penn arrived in 1682 he had found some 3,000 Europeans already settled along the Delaware, and a fleet of 23 ships brought about 2,000 more with him that year. Within three years, fifty or more vessels arrived, all crammed with new settlers.

Medical practitioners accompanied each group of colonial settlers. The earliest colonists were Swedes, and they brought with them in 1638 a barber-surgeon named Hanns Janneke. He has the distinction of being the first to practice medicine in the Delaware Valley. He was soon followed by a Dutch barber-surgeon, Jan Petersen, who settled with Dutch colonists at Fort Nassau on the Jersey side of the Delaware, where Gloucester now stands.

These barber-surgeons were one of the various kinds of doctors who practiced medicine at that time. Physicians who were university graduates with M.D. degrees were the professional elite. The barber-surgeons, or chirurgeons as the English called them, the apothecaries, and the midwives were the family practitioners. There were also specialized healers such as phlebotomists or bleeders, leechers, cuppers, druggers, bone-setters, lithotomists, astrologers and even dentists. All could practice indiscriminately in most of the colonies and all were generally called doctor, regardless of their education or training. Some of the colonies from time to time enacted feeble laws regulating medical practice, but it was not until 1893 that Pennsylvania passed its medical licensing law.

Although Oxford and Cambridge, which were ancient universities in England, could confer M.D. degrees, before Edinburgh established a medical school, most doctors were trained in private schools. If they wanted to obtain the M.D., they went to the

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continental universities. The degreed physicians catered mostly to the nobility and the rich, acting only as consultants to others. There was no nobility in America, so there were few physicians sporting medical degrees. Of an estimated 3,500 doctors in America at the time of the Revolution, only about 400 held medical degrees. There were only three medical schools awarding degrees in America before 1800: the University of Pennsylvania, which started in 1765; King's College, now Columbia, in 1768; and Harvard, in 1783. Up to 1800 these had graduated only 212 students. Transylvania Medical School opened in 1799 but it did not confer any degrees before 1800.

BARBER-SURGEONS

The barber-surgeons had been originally among the officially recognized trades. The trade unions in those days were called companies or guilds. In 1492, the year Columbus discovered America, the barbers' guild and the surgeons' guild had united. This union lasted until 1745. A poem written in 1568 conveys roughly how the barber-surgeon practiced:

> I am called on many a behalf,
> Can make a curative salve;
> Can heal fresh wounds with right
> good grace,
> And old hurts too, as well as bone breaks
> Heal the French pox and needle a
> cataract,
> Quench Anthony's fire and teeth extract;
> Likewise shave, massage and trim,
> And open veins at anybody's whim.

APOTHECARIES

The apothecaries were not only druggists, or chemists as the English now call their pharmacists, but also, in their fashion, general practitioners. The apothecaries' trade union had united with the grocers' in 1606, but in 1617 they separated to be incorporated as the Worshipful Society of Apothecaries of London. At first they did not prescribe medicine but only dispensed; but towards the end of the seventeenth century they began to do both. In 1724 a clever pamphlet appeared in defence of the "pharmacopolae" which convinced the English that an academic education was not essential to the practice of medicine. Thereafter, apothecaries who were trained by apprenticeship could be licensed to do general practice.

The first apothecary in the Delaware Valley, Jacob Van Belcamp, came here in 1660 with some Dutch settlers. One of the early English apothecaries in Philadelphia was William Shippen the elder. He started out as a druggist and became one of the most influential men in the community, occupying positions of trust and respect as trustee of the University of Pennsylvania, founder of Princeton University, and member of the Pennsylvania Hospital staff, and serving in many other important capacities. He was one of the busiest doctors of his time. Realizing the limitations of his own training, he encouraged younger Philadelphians to go to Europe for medical education and learned from them when they returned.

Another eminent physician in Philadelphia was John Morgan. It was he who established the first medical school in this country in 1765. He started out as an apprentice of Dr. John Redman, was in the first graduating class of the college which is now the University of Pennsylvania, and then spent over a year as an apprentice apothecary in the Pennsylvania Hospital. Then he went to Edinburgh to obtain his medical degree. What interests us at this moment is that he started out with training as an apothecary.

There were also feminine pill vendors who carried on a thriving business. They sold all sorts of commodities, from eye glasses and medicines to food and clothing. There was the widow Mankin on Market Street, who in 1734 advertised that she had just received a shipment from London consisting of things used in the "modern" practice of physic, a great variety of materia medica both simple and compound, chemical and galenical. Then there was Lydia Darragh, famous spy so helpful to General Washington, who proclaimed herself a practicing doctor and advertised she had cured a man that three or four famous doctors had failed to relieve. Even Benjamin Rush's mother, when she was left as a widow with young children to

support, opened a grocery store in Philadelphia where, no doubt, she also sold herbs, simples, and perhaps even more potent drugs.

BONE-SETTERS AND OTHER SPECIALISTS

Bone-setters were the forerunners of our modern orthopedic surgeons. John Jones, in his surgical book which he wrote expressly for young surgeons of the Revolutionary army, spoke of them disparagingly. He called them the most illiterate mechanics, who put themselves on an equal footing with the most regular surgeons in the reduction of fractures and who obtained a higher reputation not only from the vulgar but even from the more enlightened and sensible people. In England they were respectable practitioners throughout the nineteenth century.

DENTISTS

There were also dentists during colonial times. Elizabeth Drinker, who kept a diary for many years, mentioned the famous Dr. John Baker whom she called in to lance her daughter's abscessed tooth, even though her family physicians were able to do this for her. Baker was a peripatetic operator on the teeth, travelling from city to city to ply his specialty. While in Boston he taught Paul Revere, who was a goldsmith, how to replace artificial teeth; and he had as his most famous patient George Washington, who suffered excruciatingly from improper dentures. Another colonial dentist was William Whitehead, who advertised a special mouthwash to cure scurvy when it affected the gums.

MIDWIVES

Maternity care was in the hands of midwives. As a rule only women were allowed in the delivery room of the house. Even in England man-midwives did not come into the picture much until the obstetrical forceps came into general use. This was about 1725. Physicians were called in only when there was difficulty in the woman's labor. Babies were delivered at home and if a midwife was not available some older experienced woman was likely to officiate. Often these so-called wisewomen, like the midwives and the nurses, were labelled doctor.

As a rule the midwives were trained by experience and were ignorant of anatomy. Without a knowledge of anatomy they were incapable of providing much help in complicated cases, but they did develop considerable folk knowledge. Since American midwives had to work in isolation, without expert help within easy reach, they had to be self-reliant. Benjamin Rush noted how nature was the only midwife for the Indians; and so it was, too, for many a pioneer woman far removed from any neighboring female. As a matter of fact, it was Rush's opinion that a woman having a baby was safer without a midwife.

He not only argued that the midwives were ignorant, but he accused them of being careless and mismanaging their cases. He also felt that the customary long confinement in an overheated room during the lying-in period, which the midwives insisted upon, weakened the mothers. Nevertheless, generally, midwives were held in high esteem. There are many testimonials to this in the epitaphs that we find on gravestones praising midwives who brought as many as one, two or even three thousand babies into the world. An elegy published in 1730 in Philadelphia on the death of an "ancient, venerable and useful matron and midwife, Mrs. Mary Bradwell," typified the grateful feelings many families had for their midwives.

The first man-midwife to appear in Philadelphia was Dr. A. Spencer, who came highly recommended by Richard Mead, one of the most famous physicians in London. Spencer developed a large obstetrical practice here in 1745. In 1748 Dr. Adam Thompson came here by way of Maryland and also practiced midwifery. So did the docent of early Philadelphia physicians, John Redman, when he first began to practice, but he soon limited himself to internal medicine or, as he called it, the practice of physic. When William Shippen, Jr., returned from studies abroad in 1762 he

opened a private school for midwives. He taught obstetrics not only to men but also to women, but divided them into separate groups. He even opened a hospital for maternity patients so that his students could receive practical instruction. He said he was led to do this after assisting a number of midwives when they were in trouble with difficult cases. Most of their difficulty he attributed to lack of knowledge and training, and so through his teaching he hoped to improve the midwives' skill. John Jones, at the medical school of King's College, also taught obstetrics when that school was opened in 1767, but he taught only men, not midwives. He was especially skilled in the use of forceps, the use of which was not transmitted to the midwives.

WET NURSES

Wet nurses were a class of nurses which we no longer encounter in Philadelphia. In former times, however, they were very popular and were employed as lactating substitutes for nursing mothers. They usually assumed complete charge of their infants. They quieted them with crooning lullabies, knew charms and magic cures, used a variety of simple remedies, and possessed a talent for treating cuts, bruises, burns and the many other minor accidents of children. New Jersey was famous for its prolific women; there the delicate ladies of Philadelphia could find a plentiful supply of wet nurses.

SOME EARLY COLONIAL PHYSICIANS

Among the Quakers in Penn's early colony, there were quite a few who had medical training. John Goodson, who styled himself "chirurgeon from London," was already here when Penn arrived. Along with Penn came Thomas Wynne, Edward Jones, Robert Dimsdale and Griffith Owen, who were all likewise "chirurgeons." Hugh Chamberlain, Charles Marshall and William Russell were physicians. The medical profession was always highly regarded by the Quakers and so it is no accident that Philadelphia has always been one of the world's great medical centers.

While most of the others turned to other pursuits, Griffith Owen devoted himself to medical practice. He performed the earliest amputation here, a dramatic event, and in 1713 was employed by the city to care for the poor.

There were some unusual kinds of medical practitioners, besides those already mentioned. Among the German immigrants was a quaint mystic named Christopher Witt, who came here in 1704, settling along the Wissahickon in Germantown. He was a Rosicrucian, astrologist, naturalist and metaphysician as well as a theosophist, and established a botanical garden from which to obtain his medications 20 years before John Bartram. He cast horoscopes and nativities, practiced the ancient art of urinoscopy and was a doctor to his neighbors. His place of residence is called Spook Hill. When cows, horses or children got strange diseases that baffled the household grannies with their own kitchen physic, his prescription was looked upon as a sure cure.

Another interesting Philadelphia medical character was Abraham Chovet. Born in England in 1704, he was admitted to the barber-surgeons' company in London and appointed demonstrator of anatomy to this guild. He used wax models to demonstrate anatomy and brought these with him when he came to Philadelphia. Here he also lectured on anatomy and physiology and in his own residence set up an anatomical museum.

John Bartram was a self-taught botanist who received the appointment as Royal Botanist to King George III and was elected an early American Fellow of the prestigious Royal Society. He prepared herbal medicines which were eagerly used by his neighbors to preserve their health and cure sickness. His botanical garden in Southwest Philadelphia is now an interesting historical attraction.

One of the most important early Philadelphia physicians was Thomas Bond. Prepared by medical studies in Scotland and France, he settled here in 1734, and in 1752, with the aid of his brother, Phineas, and of Benjamin Franklin, he established the

Pennsylvania Hospital. There he performed the first kidney stone operation in this country, and, when the medical school was established, taught students at the bedside of the patients. Thirty students, as well as Drs. John Redman, Thomas Cadwalader, William Shippen and the hospital managers, all attended his introductory lecture in 1766. The Philadelphia General Hospital, which was established in 1729, more than 20 years before the Pennsylvania Hospital, was at that time called the Almshouse. In this Almshouse Dr. Bond also lectured on obstetrics. In 1771 the Almshouse managers had to admonish him not to permit any pupil of his or any student from the medical school to be present at the delivery of a woman in the maternity department unless the student exhibited decent manners and was of a suitable age. Medical students in those days were apt to be pretty wild.

This good doctor made house calls in a two-wheeled sulky drawn by a black horse. He survived to the age of 72 in spite of a longstanding pulmonary consumption, and attributed his survival not only to his diet but to frequent bleedings.

The grand old man of the medical profession in Philadelphia was John Redman. He was the preceptor of William Shippen, Jr., John Morgan, Benjamin Rush, and many other notable physicians, and was elected the first president of the College of Physicians of Philadelphia. He had a marvellous bedside manner. His favorite remedies were Glauber's salt and wine, and he was a staunch advocate of the use of mercurial drugs and of bleeding. His pupil, Benjamin Rush, later carried these traditional cures to great extremes. To avoid contagion, Dr. Redman kept a bowl of vinegar in the patient's room and every so often plunged into it a red-hot iron. He was an inveterate tobacco chewer, in the belief that this too protected him from contagion. In spite of recurrent lung abscesses (which may have been due to lung cancer) and two attacks of yellow fever, he eventually succumbed to liver disease at the age of 86.

In his day many doctors made their calls on foot. Only old men rode horseback or in a little phaeton or sulky. John Redman, however, always rode a small black filly as he made his rounds.

In stormy weather the doctors wore top boots, oiled linen hat covers and large shoulder capes hooked around the neck and extending to the knees. Dr. John Morgan introduced umbrellas in 1772 and the doctors were the first to patronize them. They were heavy and clumsy and were ridiculed by the press as being effeminate, but in spite of the carping press the doctors had the courage to carry them and soon other peopled followed suit.

After the Revolution, inflation resulted in severe pecuniary distress among the people. To serve the multitude of the poor, the Philadelphia Dispensary was opened in 1786, where proper medical care was obtainable at little cost. Before this charitable institution was established, Benjamin Rush asserted that multitudes fell sacrifice to ignorance and the villainy of quacks and nostrum vendors. The mortality rates were extremely high at the time. More than half the children of Southwark between the ages of six and eighteen months died of diarrhea and fevers. Within five years after the dispensary opened it could point with pride to the fact that this mortality was greatly reduced. While better economic conditions along with improved nutrition and a greater regard for cleanliness were important factors in this improvement, everyone agreed that better medical care offered by the dispensary physicians helped a lot.

One of the consultants to the dispensary was Dr. John Jones. He was personal physician to Benjamin Franklin, who suffered grievously in 1790 from stone in the urinary bladder, requiring large doses of opium to relieve the pain. When President Washington took sick in New York that year, he too called for Dr. Jones, who travelled from Philadelphia to the sick president's bedside. Within a few hours of his arrival a pneumonic crisis relieved the president and within a few days he was out of danger. When the seat of government moved back to Philadelphia, President Washington employed Jones as his family physician.

Although Jones was a surgeon, he believed surgery should be part of general

practice and was opposed to specialization. Dr. John Morgan on the other hand, when he founded the medical school in 1765, separated surgery and pharmacy from medicine. However, in this newly settled country, opportunities for adequate specialized training were not within easy reach so that many medical students were obliged to set out in practice with whatever stock of knowledge they were able to acquire from individual instructors, who themselves often were sadly in need of instruction. Before the medical school was available, medical training was mostly by apprenticeship. Boys were apprenticed at about the age of 14 or 15 and apprenticeship continued anywhere from three to seven years. The apprentice groomed the doctor's horses, drove with him on his calls, compounded pills and potions, distilled tinctures, assisted at operations, went out to dress the patients' wounds afterwards, and even robbed graves to obtain bodies to learn anatomy. Some busy practitioners took as many as six or eight pupils. John Morgan, in his inaugural address opening the medical school, pointed out it was impractical for a physician in active practice to give lectures and demonstrations to his apprentices, but he acknowledged there was practical value in the personal relationship between preceptor and student. Until the middle of the nineteenth century, the candidate for a medical degree needed a preceptor. After that, hospitals multiplied and internships replaced the need for preceptors.

It was William Shippen, Jr., who inaugurated formal medical education, as distinguished from the apprentice system, in the private school he opened in 1762. John Morgan, however, was the one who started the system of medical education in this country within a university setting where an M.D. degree could be obtained. He and Shippen comprised the entire medical faculty in 1765. In 1768 they were joined by Dr. Adam Kuhn, and in 1769 by Benjamin Rush. Year after year the faculty grew and other medical schools sprang up elsewhere.

Benjamin Rush was the most eminent of the medical signers of the Declaration of Independence, the only one with a medical degree. Matthew Thornton, from New Hampshire, was a signer who also practiced medicine. He had served as a surgeon with the New Hampshire troops in the French and Indian War in 1745. Lyman Hall, signer from Georgia, was a prominent medical practitioner who became governor of his state. Another medical signer from New Hampshire was Josiah Bartlett, but after becoming active in politics he gave up medical practice. So, too, Oliver Wolcott of Connecticut studied medicine with his brother and for a while practiced with him in Litchfield, Connecticut, but the pressure of public office forced him to forego medical practice. Finally, there was George Taylor, Rush's colleague from Pennsylvania, who might by a stretch of the imagination be claimed as a member of the medical fraternity because he had studied medicine, but only under duress. He resisted his family's wishes that he become a doctor and ran away from home, arriving in Philadelphia as a redemptioner. Here he married his boss's daughter and then rose to fame and fortune in the iron business.

MEDICAL PRACTICE

Bleeding, blistering, leeching, scarification, cupping, purging, vomiting, along with herbal diuretics, diaphoretics and the like were the main features of medical practice in 1776. These procedures were meant to cleanse or purge the blood of its impurities. The drugs most frequently used were mercury and opium. Mercury was mostly in the form of calomel while opium was usually used as laudanum and paregoric. Iron and quinine were also in demand. The latter was introduced into the pharmacopoeia by the South American Indians. Other drugs borrowed from the Indians included ipecac, sarsaparilla and rattlesnake root. Human and animal excretions had a particular fascination as medicinal remedies. Nowadays these are chemically refined into more acceptable organic compounds.

Bleeding, also called phlebotomy or venesection, was an indispensable part of the treatment of fevers. It had been used since dim antiquity, even longer than acupuncture, which originated in the Stone

Age but was never used much in America. There were a few people who objected to bleeding. Thomas Jefferson, in particular, was opposed to it and never allowed the overseers of his slaves to bleed them.

Amputation had to be done much more frequently than it is to-day. Compound fractures were usually fatal unless amputation was done promptly, before sepsis set in. Sometimes trepanation of the skull was lifesaving in skull fractures. Another indication for amputation was gangrene which sometimes followed injuries complicated by infection.

DOCTORS IN THE CONTINENTAL ARMY

After the battle of Lexington in 1775, the Revolutionary War heated up. Three months later the Continental Congress, meeting in Philadelphia, adopted plans for a medical department suitable for an army of 20,000 men, and Dr. Benjamin Church, a New England physician, was appointed director general. Church turned traitor, was convicted of treason and deported. After that, a succession of Philadelphia physicians headed the army medical department. The first of these was John Morgan. As soon as he was appointed he reported to General Washington in Massachusetts. There Morgan found about 19,000 soldiers with more than 2,800 sick. There were times when one out of every five was certified unfit for duty because of poor health. Lice and the seven-year itch, which we now call scabies, made life miserable in camp, and typhus fever, smallpox, typhoid and dysentery decimated the ranks. Diarrhea was especially annoying. Sanitation was neglected and in their haste men were apt to let go anywhere at all in camp. This so seriously endangered the health of all the others that an order was issued for the guards to shoot on sight any man caught in the act of relieving himself in camp outside the latrines.

To prevent the spread of smallpox, Washington ordered all susceptible soldiers to be inoculated. Vaccination had not yet been developed and the method of immunizing people against smallpox at that time was to inoculate them with smallpox matter from patients who had the disease. To keep inoculated cases from spreading the disease, special isolation hospitals had to be provided. During the disastrous campaign of 1776-77, sick troops were brought to Philadelphia for medical care and about 2,000 of them died of smallpox. They were buried in Potter's Field where Washington Square is now located.

Scabies also disabled a great number of the soldiers. From constant scratching and lack of bathing facilities, many were covered with loathesome sores rendering them unfit for duty. The regimental surgeons had to isolate them in hospital huts where they were treated with foul smelling sulfur ointment.

Dr. Morgan, Director General of the Army Medical Department, was too efficient and conscientious. He was unable to cope with the insufferable state of affairs in the army. There were no medical supplies; the regimental surgeons were untrained and unskilled; and there was political intrigue attempting to displace him in favor of other doctors. Morgan was no politician. He was a perfectionist. He insisted that regimental surgeons and surgeon's mates be examined to determine their fitness to serve. Most of the candidates for appointment were illiterate with only practical experience gained in some inadequate apprenticeship. They complained that they had to sweat out impractical examinations that Morgan set for them. Sometimes the examinations lasted as long as four hours. On one occasion a candidate was asked how he would treat a patient with rheumatism and he said he would promote a sweat in the patient. Then he was asked how he would do this and he replied: "I would have him examined by an army medical examining committee."

Attacked by the military doctors who nagged Congress, Morgan was dismissed and William Shippen, Jr., was put in charge of the army hospital department. Washington was on the run at this time with fighting going on in different places, so that Shippen established a system of so-called flying hospitals which were set up where needed much like army field hospitals now. After the Battle of Princeton and Trenton,

Washington retreated to Valley Forge, while Shippen set up his hospital headquarters in the Moravian Seminary at Bethlehem.

While Washington was encamped at Valley Forge, Dr. James Hutchinson, a Philadelphia fighting Quaker who was surgeon-general of Pennsylvania, inoculated 3,500 soldiers there. By this time Benjamin Rush had left Congress to become surgeon-general of the middle department of the army. He took up his post at a hospital in Reading. He was dismayed at the state of the Army Medical Department and wrote to his friend John Adams about the overcrowding in the hospital and the lack of medical necessities. He gave up his position in 1778. When the war was winding down in 1781, Shippen, anxious to return to teaching, resigned. He was succeeded by Dr. John Cochran, a native of Chester County, Pa., who headed the medical department until the army was disbanded in 1783.

Benjamin Rush, M.D. (1745-1813): His Origins and Ancestry

By A. R. RUSH*

PREFACE

My native county - Northamptonshire, England - has many links with the early founders of the United States of America. The village church of Ecton, where the forebears of Benjamin Franklin served the little community as blacksmiths for over three hundred years, is visible from my garden, whilst a bare six miles to the west of the county Borough of Northampton is another small village, Flore, where the ancestors of John Adams once lived.

Scattered around the district are several reminders that George Washington is a Northamptonshire name. His direct ancestor was Lawrence Washington of Sulgrave; Lawrence was twice mayor of the county town, in 1533 and 1546. His two shields are displayed amongst those of all the known names from the thirteenth century onwards in the gallery in the neo-Gothic Town Hall at Northampton.

Less than a mile from my residence is the twelfth-century church of St. Giles, in which parish that same Lawrence is known to have had a house, though its exact site is uncertain now.

Sulgrave, where Lawrence resided for some years in the Manor House, is some 25 miles southwest of Northampton. He died there and was buried within the Parish Church, his death being recorded as 1584.

Two more Washington tombs are to be seen in the church at Great Brington some 12 miles northwest of the county town: Lawrence II, a grandson of Lawrence of Sulgrave, was interred in the choir in 1616, and his younger brother Robert in the nave with Elizabeth his wife. In the church, too, are a number of tombs of the Spencer family, whose living descendant is the present Earl Spencer of Althorp. The beautiful park and house are a short walk from this church, and it is interesting to note that the Spencers were connected by marriage with both the Washingtons and the Marlboroughs.

Finally, to the east of the Borough is the market town of Thrapston, where lived Sir John Washington (Baronet), a son of Lawrence Washington II and a great grandson of Lawrence of Sulgrave. His arms - stars and stripes - are seen on a memorial within the building, although Sir John was buried in the churchyard. He died in 1668.

I may therefore justly claim to have been born in the midst of these well-springs of American history.

When my younger daughter Christine married a brilliant young American biologist, Dr. Bruce C. Parker, I was not altogether surprised to receive a request for any family history in my possession, and it happened in this manner. The late President Dwight D. Eisenhower paid a formal visit to the University of California at Los Angeles in, I think, 1963, and a copy of the Declaration of Independence was displayed on that occasion, bearing, amongst others, the prominent signature of Benjamin Rush. My daughter and son-in-law were at once interested to discover whether there could be any possible connection between them and the celebrated doctor from Philadelphia.

What I imagined might be an easy task eventually led to a search spread over five or six years - some of the most absorbing in my life. My enquiries were numerous and widespread. Although I was unable to penetrate my own family history beyond the late seventeenth century, due to the absence of church records covering earlier years, I did uncover a considerable amount of other Rush family history, and a great deal of it related to Dr. Benjamin Rush. I now know his origins as far back as the beginning of the sixteenth century.

*"Southerndown," 275 Billing Road East, Northamton, England.

I am sure that my labour in adding a little to known Anglo-American history has been worthwhile, for although the medical side of Dr. Rush's work has been well treated by writers and historians, the scant account of his descent which appears in his autobiography, *Travels through Life,* and his *Commonplace Book for 1789-1813* is the only one which deals with his ancestors' colourful story. It is a pity that the doctor did not emulate his distinguished friend and colleague Benjamin Franklin, who availed himself of the opportunity whilst in Britain of visiting the village where his forebears lived and died and of seeing for himself where and how they had their being. He could hardly have departed without feeling a sense of satisfaction.

To the Reverend William J. T. Smith, the present vicar of St. Andrew's Parish Church at Boreham in Essex, where several generations of the Rush family worshipped, I am much indebted for the trouble he took in making available, for my use, photographs of wills, church records, and buildings which were indispensable to me in connection with this search. In addition to this, I am grateful to him for his kindness in reading the manuscript over and for checking facts.

For the continuation of Dr. Benjamin Rush's ancestry from 1683 onwards, I am indebted to Dr. George W. Corner of the American Philosophical Society at Philadelphia, for without his help and encouragement I should not have completed my labours thus.

PART I. 1510-1683

Chapter 1

The origins of some of the principal founders of the Union of States, which later became the United States of America, are well enough known; notable are those of George Washington, Benjamin Franklin, John Adams, and Thomas Jefferson. Little has been published, however, concerning the ancestry of that brave, if sometimes impulsive, doctor of medicine, Benjamin Rush of Philadelphia.

In the autobiography, *Travels through Life,* which he left behind him - mere manuscript notebooks - and his *Commonplace Book for 1789-1813,* an extract of which is to be found in Appendix 5, Dr. Benjamin traced his descent to a certain John Rush and his wife Susannah, Quakers, who arrived in Philadelphia in 1683 (Figure 1). They joined the society of George Keith.

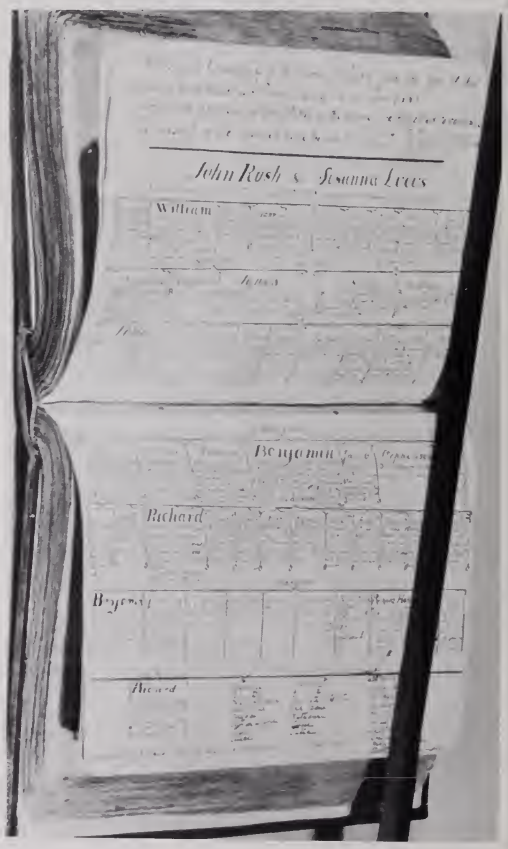


Fig. 1. The Rush family Bible is open to the "Table of the Genealogy of the name of Rush, from the first of that family who settled in Pennsylvania in the year 1683." (Courtesy of the Estate of Benjamin Rush.)

The year 1683 was a kind of dividing line in the search for the doctor's origins: from that date onwards his family history is well documented and presented no problems, but working backwards from that year was a more difficult matter. From the autobiography, it appeared that John Rush had emigrated together with his surviving family and some grandchildren from an

Oxfordshire village, the name of which was incorrectly given as "Hortun." John Rush had apparently been an officer of horse in the Parliament Army, and was personally known to, and respected by, Oliver Cromwell. Nothing else was mentioned concerning him, and these meagre facts had to form the base from which this enquiry started. No details of his education, profession or occupation were given, only the bare statement that he was a Quaker and had fought as a cavalry officer in the Parliament Army during the Civil War. This rather indicated some religious motive, especially since John is known to have quitted his native land in a spirit of hatred; he may even have suffered persecution, although no actual proof of it has been found so far. At least he would have known of the religious persecution of Quakers, which seems to have been particularly violent at Oxford and in the surrounding county. A London bookseller made a collection of the all "Broadsheets" and pamphlets which came to him in the course of his business; these publications to some extent fulfilled the functions of newspapers in the seventeenth century. Here, in a verbatim extract from one of those publications,[1] is an example of the kind of high-handed oppression which was all too common at the time:

> Richard Farnworth, a Yorkshireman, who was visiting his friend Edward Viviers, was assaulted by Aholiab West (Mayor) and William Allen (Magistrate) in the street, and next day brought to Court. He refused the Oath, and was imprisoned (October 7th, 1655) at Banbury.

This incident is typical of many which were recorded. It was common knowledge then, as now, that Quakers had a religious objection to oath-taking, which rendered them an easy target for religious animosity.

Before pursuing the origins of John Rush further, a brief historical sketch of the period will be helpful to grasp the background against which citizens, particularly Quakers, were struggling for freedom of faith and expression.

The Civil War, which ended in 1645 with the total defeat of the Royalist army of Charles I at Naseby in Northamptonshire, had raged for five years. The king, spurred on by his French queen, was a determined champion of royal autocracy - the divine right of kings to govern according to their will. Step by step, Parliament had been attacked by the king, culminating in 1642 in an attempt to arrest five members by military force while the House was sitting. The result was inevitable - revolt and the execution of Charles I in 1649. It is an interesting sidelight on the event that Samuel Pepys, the diarist, then aged fifteen years, witnessed the execution from Charing Cross.

A year earlier John Rush had quitted the army; at least it may be supposed that he did so, because documentary evidence of his marriage in 1648 has now been found. This will be treated more fully later, and it only need be noted because the formidable "New Model" army which Cromwell had raised and trained was in process of being slowly disbanded: in February and March 1647 Parliament had passed a series of votes to that effect. There was much unrest amongst the soldiery, whose pay was in arrears. Some volunteers were retained for service in a campaign against the Irish planned for some future date, and specially favourable financial inducements were offered to any who would come forward.

Even so there were ample grounds for discontent. Soldiers were to receive only a small part of their overdue pay in cash, and were given altogether insufficient security regarding the balances due to them.

The Clarke Papers in the Library of the British Museum contain fuller details of the proposals which were made by the Government of the day, and they certainly make unsatisfactory reading.

John Rush, whose father was described as a "gentleman," no doubt had some independent financial means. Although the exact date of his disbanding is not known, it must have been earlier than April 8, 1648, for on that day he married Susannah Lucas of Broughton near Banbury, Oxfordshire, as the entry in the register of the Banbury Meetings of the Society of Friends records.

Fig. 2. The sword, watch, and Bible which belonged to John Rush. Dr. Benjamin Rush recorded that "as the successo to the eldest sons of the family, I have been permitted to possess his sword and watch." The Bible was printed in London i 1599 and above the design on this open page bears the signature of John Rush. (Courtesy of the Estate of Benjamin Rush.

John and Susannah lived in a quite charming village, Hornton, about five and a half miles from Banbury. This register is now in the custody of the Public Record Office, and a transcript is available at the London Headquarters Library of the Society of Friends.

The house where John and Susannah dwelt has not been identified and may have been demolished in the course of time, yet there still exists a small brown sandstone manor house bearing the date 1604 over the lintel It is possible that this may have been their home from 1648 until 1683, when they departed for Pennsylvania, for this very solidly-built stone village shows little sign of any serious change over the centuries. The date is carved on a stone panel over an upper storey window: the last figure is somewhat obscure, but is probably intended as "4" (Figure 3).

Fig. 3. The Manor House, Hornton, Oxfordshire. The carved panel bearing the date 1604 may be seen above the lintel of the left dormer window.

Chapter 2

As Dr. Benjamin himself narrates, John Rush, who left England in 1683 for Pennsylvania, was a Quaker, and so it was to the Society of Friends that my early enquiries were addressed. Through the courtesy of their headquarters librarian, Miss Sylvia Stevens, the following entries were found in their transcripts:

Marriage

On April 8, 1648 at the Banbury meeting, John Rush (of Hornton) to Susannah Lucas (of Broughton near Banbury)

Births

On April 16, 1649 at Hornton Elizabeth Rush
On May 31, 1652 at Broughton William Rush
On Sept. 9, 1654 at Hornton Thomas Rush
On Oct. 25, 1656 at Hornton Susannah Rush
On Mar. 1, 1660 at Hornton John Rush
On Feb. 8, 1662 at Hornton Francis Rush
On July 21, 1664 at Hornton James Rush
On Oct. 26, 1666 at Hornton Joseph Rush
On Sept. 27, 1670 at Hornton Edward Rush
On Dec. 12, 1673 at Hornton Jane Rush

In 1970 I was able to verify these entries and to compare them with the original register, which has now been removed from Somerset House and only recently was handed over to the Public Record Office. These entries clearly pointed to the possibility that John Rush of Hornton might be the same person as the officer of horse in the Parliament Army during the Civil War, who migrated to America in 1683.

Whilst this investigation was being actively pursued, some traces of my own ancestors were discovered, this time a bare 12 miles distant across the Northamptonshire border in the village of Abthorpe. In the records of Somerset House was found the following:

> The nynth day November 1654 were letters of Administration of all and singular goods chattells and Debts of William Rush late of Abthorp in the parish of Tocester in the county of Northampton deceased, granted to Anne Rush the relict of the said deceased she being first sworn by the Commission truly to administer.

As my own ancestors were Francis and Mary Rush of Silverstone in Northamptonshire (only two miles distant from Abthorpe) it seemed possible that a relationship of some kind might exist between the Hornton and Northamptonshire families. The church registers of Silverstone and Whittlebury (only one register was kept for the two villages) seemed to be the obvious starting point for a search and they were examined first.

The results were rewarding in some measure but very limited. The earliest ancestors I could trace with any certainty were Francis and Mary Rush, who were living there in 1702 when their first child Elizabeth was born: they were my great-great-great-great-grandparents. Francis was styled a "Yeoman" and held office as churchwarden for a period, in which capacity he signed the bishop's transcripts of the church registers of birth, marriages, and deaths within the Parish, a return which was annually sent to the bishop of the diocese.

Francis died in 1729 and his will dated November 1, 1729 is in the care of Northamptonshire Record Society. This Society also holds the original death-bed will of "Ann Rush of Abthorp," the widow of that William whose estate she administered under letters of administration mentioned earlier. This will, dated June 1, 1689, contains the following passage of some interest if only for its quaintness:

> I give unto my sonne fraances rush one shillin to be paid within six mounths of my decease.

It is quite likely of course (but unproved) that Francis of Silverstone and the "fraances" of Ann's will were the same person. The frequency with which such christian names as John, Francis, William, Thomas, Jane, and Elizabeth occur amongst the various branches of the Rush family certainly does point to a common source somewhere, but so many documents and records of the past have disappeared or have

been destroyed in the passage of time that absolute legal proof is often difficult to establish and, in many cases, an impossibility.

For example, the following may be quoted. As recently as 1913 a local antiquary and historian, The Rev. Isham Longden, made a copy of some entries in the Church Register at Abthorpe, which the writer was shown some little time ago. The earliest entry was that of the marriage of Thomas Rush to Elizabeth Hills on November 23, 1624. When permission to inspect and check was sought, the incumbent for the time being, the Rev. J. D. Smyth, said that the particular volume was no longer in existence, it having been burnt, so it was thought, by an old housekeeper after the death of a former incumbent, at a time when the living was temporarily vacant and without a priest in charge.

For that reason enquiries there could be pursued no further. Similarly an earlier register covering the parishes of Silverstone and Whittlebury, which villages shared one vicar between them for over a century, is also missing, the earliest book beginning in 1655. Many churches have registers from the middle of the sixteenth century onwards, and the loss of those earlier ones at Silverstone is irreparable.

During this search, however, some new clues were found which at the time seemed unimportant but which later led to the origins of John and Susannah Rush, who were themselves the ancestors of Dr. Benjamin.

About 10 miles distant from Silverstone is another village, Farthinghoe, and in the parish church is a beautiful white marble tomb showing a recumbent figure; the inscription indicates that it was a memorial to George Rush of Farthinghoe Lodge. It was carved with much skill by C. Regnart, a London sculptor of the period. There are also wall plaques to the memory of George's two daughters, Henrietta and Kitty.

George Rush was a man of great wealth, for in addition to Farthinghoe Lodge he also owned Elsenham Hall (in Essex) and yet another house in Mayfair (London).[2]

A recent visit to this church showed that the monument and the wall plaques had all been moved by an earlier incumbent, thus destroying the original intention of the sculptor, who had carved a finger pointing to the two wall plaques erected to the memory of George's daughters who predeceased him.

From various documentary sources it was soon apparent that George's ancestry, like that of John Rush of Hornton, was traceable to the common ancestor Sir Thomas Rush, a Serjeant-at-Arms to King Henry VIII; at least the claim was made by some of George's family, though on what grounds has not been made clear. It is, however, quite possible and indeed probable.

Several members of George Rush's family had amassed great wealth in the course of time. By marrying his 2nd cousin Clarissa Rush, one of the six daughters of Sir William Beaumaris Rush (his own cousin), George undoubtedly added to his own already considerable wealth, since Sir William had himself inherited a very large legacy from an unmarried relative. (Sir William received the name "Beaumaris" because he was born at sea off Beaumaris Castle in North Wales.)

During this search, attention seemed constantly to focus on the two counties Essex and Suffolk, both in East Anglia. It was known that John Rush had fought in the Parliament Army, and since these eastern counties had supported the Parliament cause so strongly, searches were made both in the Library of the British Museum and in the Public Record Office, to see if any links could be found between any Rush members - and they were quite numerous - in Essex or Suffolk, and that John Rush of Hornton who emigrated to Philadelphia in 1683. The first result was the discovery of a book by Edward Peacock, F.S.A.,[3] in which, under the heading "Sir William Fairfax his regiment," appeared the name of Thomas Rush, as a captain commanding 100 men. Elsewhere in the Library was found a letter from Colonel Massie, who was garrison commander at the city of Gloucester, then under siege, and addressed to "The Committee of both kingdoms," which was the governing body under Parliament during hostilities. The

letter had been carried to London by Lt. Col. Thomas Rush who had successfully evaded the Royalist forces investing that city.

From a number of other sources, including Morant's *History and Antiquities of Essex,* Copinger's *Manors of Suffolk,* the *Harleian Manuscripts,* and Davy's *Suffolk Collections,* a family tree was built up gradually which showed that a certain gentleman named Thomas Rush, of Boreham near Chelmsford in the county of Essex, had an elder son, also Thomas, who had been a lieutenat colonel, and there is no doubt that Thomas the younger was the officer of horse who had carried Colonel Sir Edward Massie's letter to London.

More interesting still was the fact that Thomas Rush the father had a younger son John, who, unlike his elder brother Thomas, had been baptised at Boreham on May 22, 1623, as shown by the church register (Figures 4, 5, 6). Apart from that one fact nothing else is shown; he was not married there, nor is there any entry of a burial. Obviously John was of military age, and of the right political views to have served in the Parliament forces if he had so wished. Quite a number of other "John Rush" entries elsewhere were discovered but none of them so exactly fitted the known facts of that John Rush of Hornton whose family birth dates have already been given. After a visit to Boreham, the vicar, the Rev. William J. T. Smith, himself a history scholar, kindly sent a photocopy of the "Last Will and Testament of Thomas Rush of Boreham," bearing the date November 24, 1635; its existence had already been noted at Somerset House, as being in the care of the Essex Record Office.

This interesting if complex document (Appendix 1) showed considerable legacies to the children of Thomas and Thomasine Rush. John, for example, inherited £200 in cash at the age of twenty-one years and £10 per annum to be paid by his mother Thomazin from her inheritance. His sister Jane Rush also received £200. Particular notice of this should be taken because it is through Jane's will and the legacies she left to John's children that her brother John is identified as the John Rush who married Susannah Lucas at Banbury, and lived for thirty-five years at Hornton before setting forth to seek a new life and freedom of belief in the New World. A copy of her will makes up Appendix 2.

Through the good offices of Rev. Smith, I was further helped by a list of other Rush entries in the church register:

Baptisms

1620 Aug. 31st	Thomasin	daughter	of Thomas & Thomasin	RUSH
1621 Oct. 4th	Jane	daughter	of Thomas & Thomasin	RUSHE
1622	Frances	daughter	of Thomas & Thomasin	RUSHEE
1623 May 22nd	John	son	of Thomas & Thomasin	RUSHEE
1633 June 25th	Mary	daughter	of Thomas & Thomasin	RUCHEE

Burials

1574 June 5th Thomas Rushe (gent)
1635/6 Mar. 11th Thomas Rushee gentilman

Accounts of Church Wardens

Thomas Rushee overseer for the poor from the feast of Easter 1624 to the feast of Easter 1625.
Thomas Rushee overseer for the poor from the feast of Easter 1625 to the feast of Easter 1626.
Thomas Rush gent overseer poore 1633-1634.

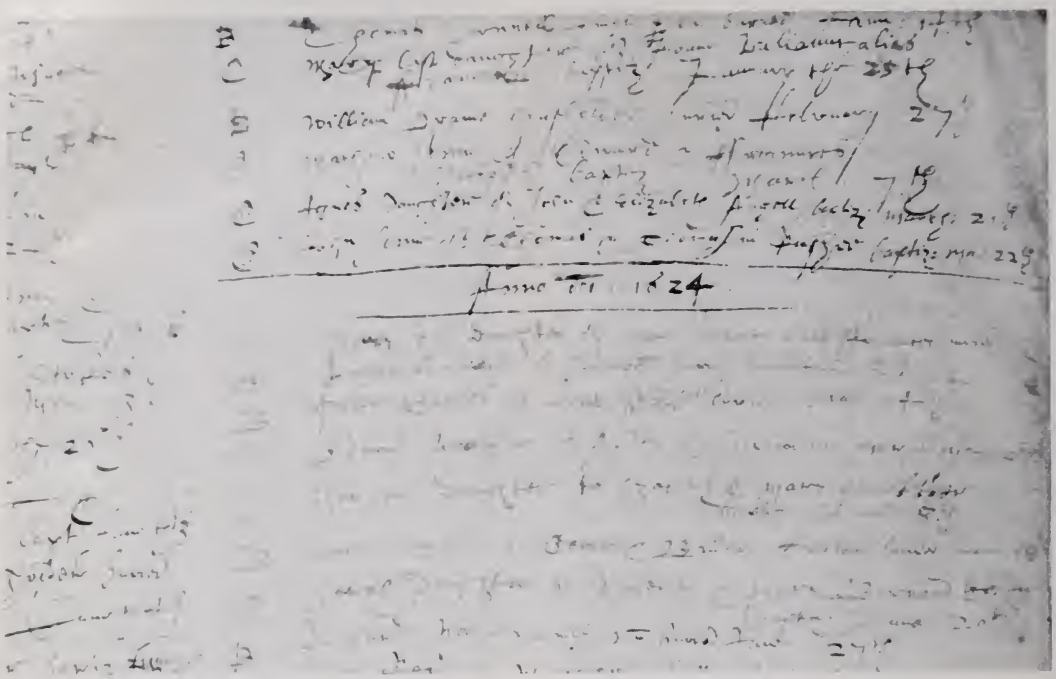


Fig. 4. A photograph of the *Church Register* of St. Andrew's Parish Church, Boreham, near Chelmsford, Essex, shows the entry recording the baptism of John Rush in 1623. The entry is that one immediately above the line drawn over the width of the page above the heading "Anno Dni. 1624" and reads: "John sonne of Thomas and Thomasin Rushee baptised mai 22nd." (Crown Copyright. Reproduced by permission of the Public Record Office and H.M. Stationery Office.)

Chapter 3

In the meantime, as opportunity allowed, extensive searches had been made at the Public Record Office amongst the Hearth Tax[4] Assessments and Payments, or such of them as have survived the passage of three centuries. They are mostly in a dilapidated condition, often very dirty, and mostly difficult to read. One of the cleanest was an Assessment for the parish of Hornton dated 1662. A close examination failed to produce any satisfactory result, which was disappointing, because it had been hoped to find the name of Rush amongst the list of those taxpayers whose homes boasted properly built hearths. John and Susannah were resident in that village during that particular year, and if they had inhabited a normal homestead it must almost certainly have been assessed for tax. So the mystery of how two people contrived to live in a village for thirty-five years, from 1648 to 1683, in a home devoid of the elementary comfort of a fireplace with a chimney, still remains unsolved, nor are they known to have paid any rent to anyone, so far as can now be determined.

A possible explanation could be that a number of Quakers may have lived together in a large house - a thing not unknown in the seventeenth century - one of them being personally responsible for the taxes and any rent which might be payable. There is, however, no proof that this actually occurred.

At the same time it was thought worthwhile to seek for any manorial records

Fig. 5. The Parish Church of St. Andrew, Boreham (from the north-west), where the Rush family worshipped for several generations. Here John Rush was baptised in 1623. (Courtesy of the Rev. William J. T. Smith.)

in which the name of Rush might have figured as a tenant of any land or dwelling house rented from the lord of the manor. The Historical Manuscripts Commission examined their files for me, but the result was again negative. The late Colonel Stockton lived for some years at the Manor House of Horley, a village adjacent to Hornton, and the firm of Stockton, Sons and Fortescue in Banbury, a firm of solicitors in which Colonel Stockton had been a principal for a long time, placed at my disposal a pile of unsorted manuscripts now held by the Oxfordshire County Council and stored at the Bodleian Library. Since this firm of solicitors had handled much legal business throughout the County, it was hoped that the Rush name might be found somewhere in their old records, but again a prolonged search yielded no result.

Nevertheless some interesting sidelights were discovered during this investigation, even though they have no direct bearing on the identity of John Rush of Hornton.

The first of these was contained in a collection of manuscripts (in the care of the Public Record Office) which were Muster Rolls and Pay Sheets of the Parliament soldiery stationed at Newport Pagnell in Buckinghamshire and near the Northamptonshire boundary. Newport Pagnell seems to have been a kind of base camp for the Parliament forces, and so it was hoped that the name of John Rush might have appeared somewhere in the pay sheets. The search met with no direct success, but one interesting name which did appear several times was that of "John Bunnion." The year was 1644. However, there is some circumstantial evidence that

Fig. 6. The Parish Church of St. Andrew, Boreham, the chancel and sanctuary. Thomas Rush was buried here in 1635, in the Chancel. The floor-slab tombstone in the left foreground is that of Elizabeth Bramston and Moundeford Bramston, who purchased the lease to the "Parsonage" (See Figure 7). (Courtesy of the Rev. William J. T. Smith.)

John Rush may have been with the Northern Army and perhaps fought at Marston Moor in that year.

The next discovery was contained in a book in the possession of the Society of Friends, *Sufferings of the Quakers 1650-1689,* published in 1753, wherein is recorded:

A.D. 1668 John and Tabitha Rush for refusing to take an oath in the Comissioners Court, were committed to prison.

A.D. 1672 In this year the following persons were released out of Bedford Gaol by the King's Letters Patent viz. John Fenn, *John Bunnion,* John Dunn, Thomas Haynes, Simon Haynes, George Farr, James Rogers, *John Rush, Tabitha Rush* and John Curfe (italics added).

So John and Tabitha Rush may well have been amongst the first to read *Piligrims Progress* or even have been privileged to hear its author himself reading the manuscript. They may have been amongst the first to sing, "Who would true valour see, Let him come hither"[5] - the *Pilgrims Hymn* beloved of the late Sir Winston Churchill.

Efforts were made to trace any connection which might conceivably exist between John Rush of Hornton and John and Tabitha Rush of Bedford, but with no success. Sources in Bedfordshire could throw little light upon these disciples of "John Bunnion" other than that Tabitha's original family name was Hannah Dewsbury. She was the daughter of William Dewsbury, a prominent Quaker. This John's father, also John Rush, died in Bedford Gaol in 1662, where he had been imprisoned for a year for refusing to pay tithe to "Priest Wells of Wilkhamstead."

Little other information has come to hand regarding this branch of the Rush family. On December 29, 1649, the Parliament of Oliver Cromwell passed an Act for the assessment of taxes, county by county, for the maintenance of the Government. That for Bedfordshire amounted to one thousand two hundred pounds, and John Rush was named as a commissioner. He was again nominated in 1650 and 1652. It is probable that this commissioner was the same John Rush who died in Bedford Gaol in 1662, two years after the Restoration of the Monarchy. The Royalist party were quick to punish those who had actively supported the Puritan regime of the Commonwealth, and the fact that John Rush was a Quaker would be an added reason for vindictiveness.

The importance of the will of "Jane Russhe" of Boreham (1664) in tracing the ancestry of Dr. Benjamin has already been emphasized. Jane was of course the sister of John Rush of Boreham and later of Hornton, whose identity has been so elusive thus far, but another will, that of Hugh

Massie (1664), also of Boreham, was located and found to bring some further, and vital, information. By a curious coincidence, both Jane Rush and Hugh Massie were gravely ill at the same time when their death-bed wills were made.

From the family tree, it will be clear that Jane's mother, Thomasine (nee Stansted), had remarried after the death of her husband Thomas in 1635. Thomasine's second husband was Hugh Massey, and it will be noted that he was styled "Esquire," a dignity proper only for the eldest son of a knight. Although no marriage entry appears in the Church Register - another unaccountable omission - there can be little doubt that a marriage had taken place between Thomasine and the son of Sir Edward Massey, who commanded the garrison at Gloucester which he held for the Parliament in 1644. It will be recalled that Jane's elder brother Thomas, now risen from captain to lieutenant colonel, had served under Sir Edward during the siege, as appears from the letters mentioned in Appendix 4. So Hugh was now stepfather to Jane, Thomas, and John. The two families were undoubtedly on friendly terms, which explains, too, why Thomas named his eldest son Massey Rush.

The variations in the spelling in an age before dictionaries were compiled were quite normal amongst church clerks and need no explanation.

The pedigree accompanying this paper has been compiled from many authorities whose names are quoted elsewhere.

PART II

In this section the most important and interesting members of the Rush family in Dr. Benjamin's lineage will be described in greater detail, and such historical facts as are known will be mentioned (Table I).

By reference to the table of descent, it will be clear that Dr. Benjamin's English ancestors in the sixteenth and seventeenth centuries were landowning gentlemen of some distinction, a quality which Dr. Rush seemed to have inherited in full.

A very certain starting point is:

1. *Sir Thomas Russhe,* Serjeant-at-Arms to King Henry VIII.

Although its importance has greatly diminished in more recent times, the office of Serjeant-at-Arms, in personal attendance upon the monarch, was a major one in Tudor days and usually carried lands and honours with it. An early mention shows that one George ffastolf sold the Manor of Kirkley - also known as Kirkley Hall (in Essex) - to one "Thomas Russhes" in 1510, the sale being effected by a fine levied in Michaelmas Term (2 Henry VIII, Copinger, ed.). In 1533 Thomas was made a knight for his services to the king, according to Metcalfe's *Knights* and also to the letters and papers of Henry VIII (Gairdner, ed.), as quoted by the *Dictionary of National Biography.*

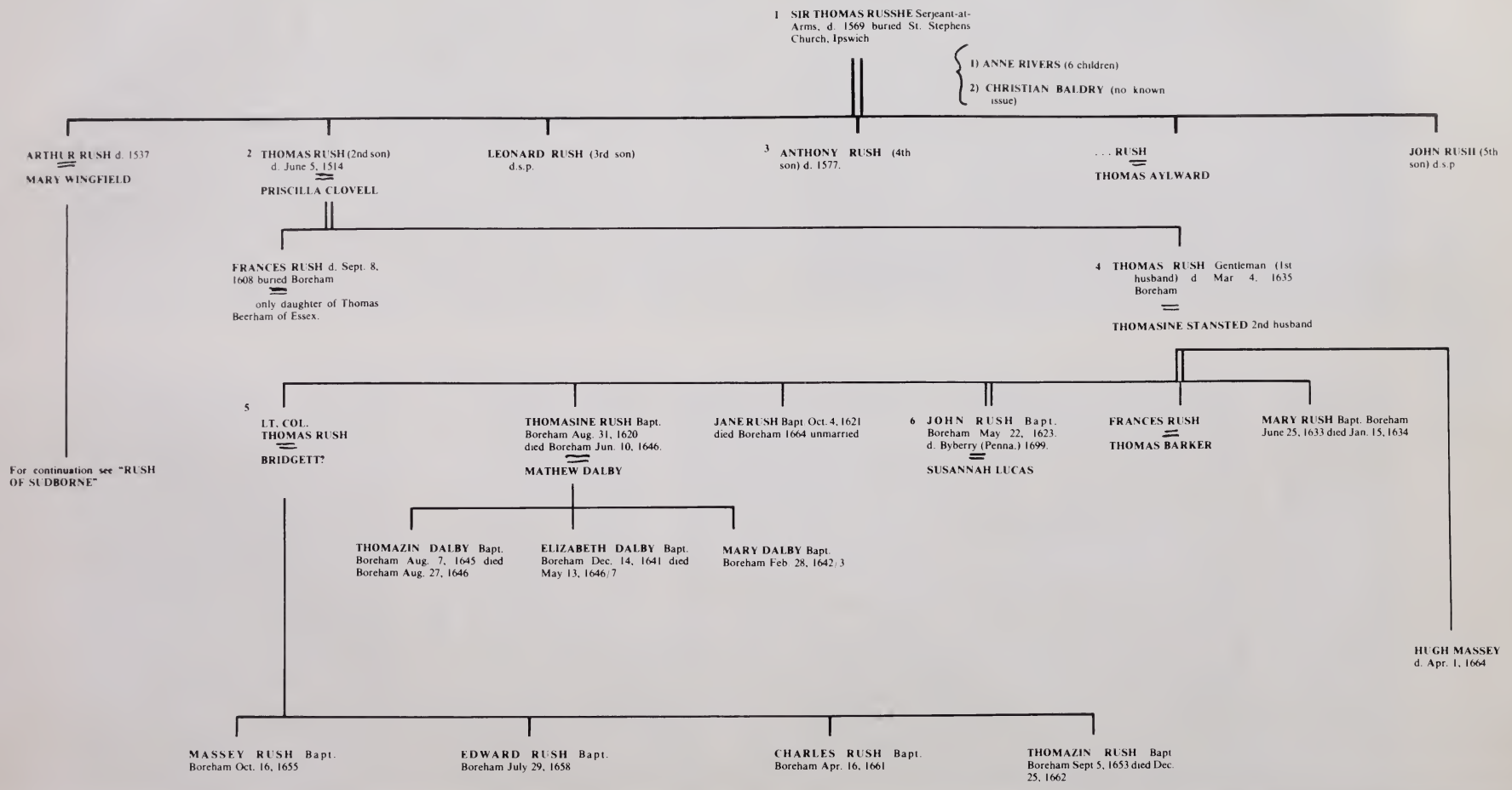
Sir Thomas does not seem to have spent much time at the Manor, for in Baker's *Northamptonshire* he is described as being "of Clapham," while in Morant's *Essex* he was said to be "of Sudborne" (in Suffolk). Further, in Davy's *Suffolk Collections,* he was described as of "Chapmans" in Sudborne but living at Ipswich in 1514. Evidently the "Chapmans" property was retained, for his eldest son Arthur Rush inherited it.

Sir Thomas married twice, his first wife being Anne, daughter and heiresss of John Rivers of Ipswich. There were six children by this marriage: Arthur, Thomas, Leonard, Anthony, John, and a daughter who married Thomas Aylward of Ipswich. Of these children two, Leonard and John, died without issue, presumably in infancy.

The second wife, as stated by Copinger, was "Christian" (name not known), who later married Thomas Baldry, a gentleman of Ipswich who was bailiff of that town in 1518, 1522, and 1541 (32 Henry VIII). Davy, however, describes Sir Thomas' second wmfe as "Christine, relict of Thomas Baldry," and it is uncertain which of these two conflicting accounts is correct. The fact that Davy also gives the date of Christine's death as 1540 makes further confusion, seeing that Sir Thomas' will was dated twenty years later in 1560. No children of this marriage have been traced.

Sir Thomas was made sheriff of Norfolk

TABLE I
The English Genealogy of John Rush

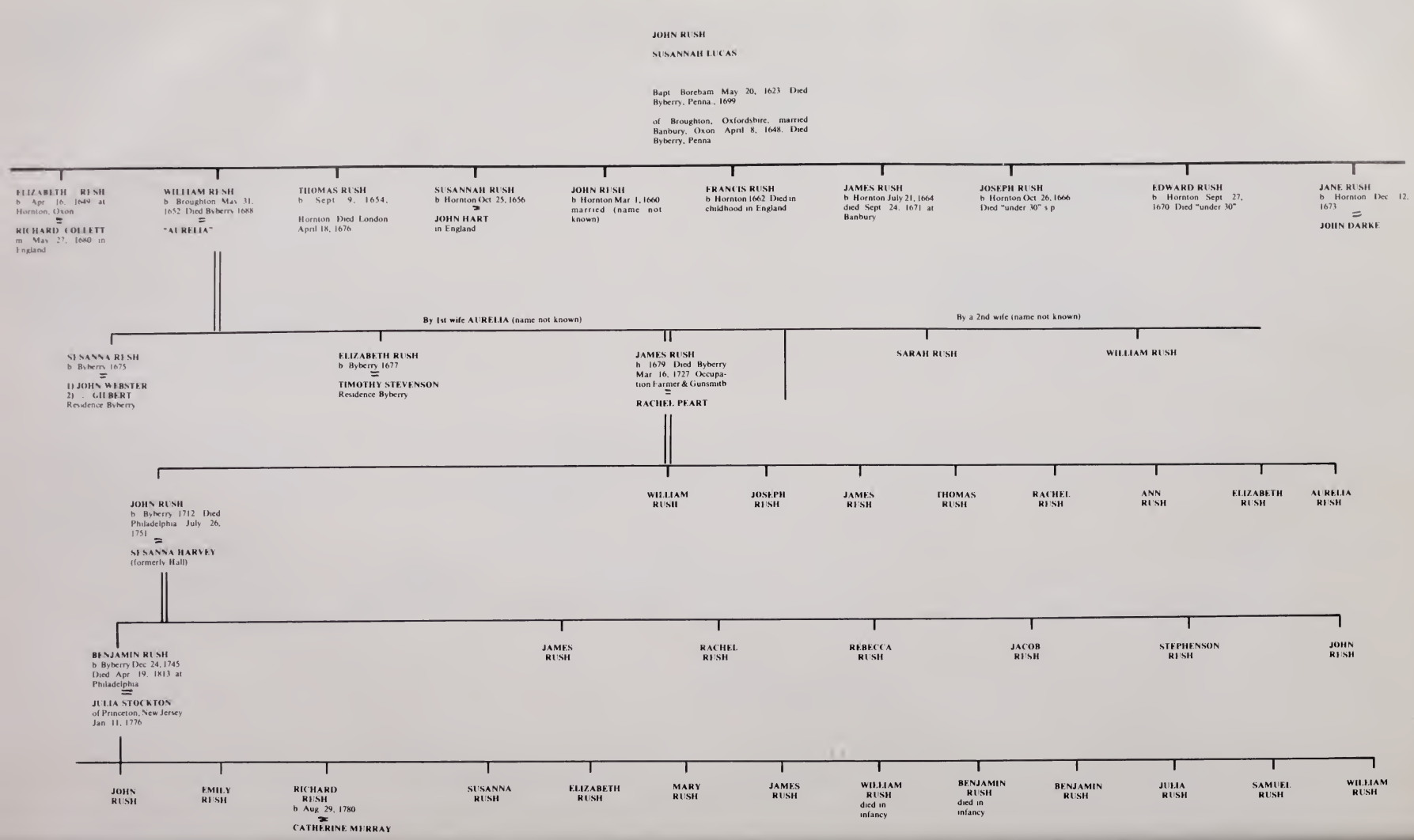


RUSH OF SUDBORNE

SIR THOMAS RUSSHE Serjeant-at-Arms d. 1560
=
ANNE RIVERS

- **ARTHUR RUSH ESQ.** d. 1534
  =
  MARY WINGFIELD
  - **ANTHONY RUSH**
    =
    ELEANOR
    - **ELEANOR RUSH**
      =
      . . . SHELTON of Unga Parva
    - **ANTHONY RUSH** son and heir, Bapt. Mar. 15, 1558 at Thornham Magna
    - **SIR FRANCIS RUSH** Knight, of Jordan Castle, Ireland, Bapt. Aug. 15, 1560 at Thornham Magna. Knighted May 14, 1599 at Maryborough, the fort of Leix, by the Lord Lieutenant The Earl of Essex. Died June 17, 1623 at Dublin
      =
      MARY (or Marie) DUKE daughter & co-heir of Sir Henry Duke of Jordan Castle, Ireland
      - **ANNE RUSH** (co-heir)
        =
        SIR EDWARD LOFTUS
      - **THOMAS RUSH** only son died s.p.
      - **MARY RUSH** (co-heir)
        =
        SIR CHARLES COOTE
      - **FRANCES RUSH** (co-heir)
        =
        SIR GEORGE WENTWORTH (brother of the Earl Strafford)
      - **ELEANOR RUSH**
        =
        SIR ROBERT LOFTUS
      - two more children not identified
  - **MARGARET RUSH** died s.p.
- **THOMAS RUSH** of Boreham
- **LEONARD RUSH**
- **ANTHONY RUSH**
- **JOHN RUSH**
- **. . .RUSH**
  =
  THOMAS AYLWARD of Ipswich

TABLE II
The American Genealogy of Benjamin Rush, M.D.



and Suffolk in 1534 (25 Henry VIII) and died at Ipswich in 1560; his remains rest in St. Stephen's Church in that town. He left a will which is recorded at Somerset House and dated 1560 (Sentence 9, Loftus).

2. *Thomas Rush of Boreham* 2nd son of Sir Thomas Rush.

In Morant, he was stated to have settled at Boreham, and Burke's *Commoners* records his marriage to Priscilla, daughter of Francis Clovell of Horningfield (or Hanningfield) Hall, Essex, or Eustace Clovill, according to the *Harleian Manuscripts;* Berry's *Pedigrees* styles him "Francis Clonville," which was probably the Norman-French version.

After the death of her husband in 1574, Priscilla remarried. Her second husband was Roger Bramston, once of Whitechapel but later of Boreham. The name Bramston has been associated with the village for many years and reappears in the "Last Will and Testament" of Thomas Rush (d.1635), the son of this Thomas. A full transcript of the will is given in Appendix 1. Through this second marriage, the younger Thomas Rush (d.1635) thus became a stepson to Roger Bramston and hence a stepbrother to any children of Roger and Priscilla. This will explain the frequent references in the Rush will of 1635 to "my brother Bramston," and in particular to John Bramston, a trustee of the will, who by that time had risen to be Sir John Bramston, Lord Chief Justice of the realm.

The eldest son of the Lord Chief Justice, who also became a knight (Sir John Bramston K. B.), left an interesting *Autobiography,* from which we learn that Margaret Bramston, sister to the Lord Chief Justice, never married, but lived at the "parsonage," Boreham, with her half brother Thomas Rush. The freehold of this still beautiful house seems to have belonged to St. Paul's Cathedral, London, and Priscilla, on her marriage to Roger Bramston, renewed the lease in favour of her son Thomas Rush.

3. *Anthony Rush,* 3rd *surviving* son of Sir Thomas Rush.

There is considerable disagreement amongst authorities regarding this Anthony.

The *Dictionary of National Biography* states that he was dean of Chichester (cathedral), born in 1537, and apparently son and heir of Arthur Rush of Sudborne in Suffolk, and grandson of Sir Thomas Rush who was knighted in 1533.

However, Morant and Davy show him as the 3rd son of Sir Thomas and this is probably correct, for a *Visitation of Essex* made in 1634 by George Owen (York Herald) and Henry Lilly (Rouge Rose), which is recorded amongst the *Harleian Manuscripts,* is in agreement. Indeed it seems possible that Arthur and Anthony may have been brothers: Davy in particular adds some family details tending to confirm that conclusion.

Anthony became canon of Windsor in 1567 and prebendary of Canterbury, being preferred to Chichester as dean on June 10, 1570. He was author of *A President for a Prince wherein is to be seen by the testimonie of auncient writers the duetie of Kings, Princes and Governours collected by Anthonie Rushe,* dedicated to Queen Elizabeth I and licensed to H. Denham in 1566.

Anthony Rush died on April 1, 1577 and was buried in St. George's Chapel, Windsor, where a monument erected by his widow is still extant. He left no issue.

4. *Thomas Rush (the younger)* of Boreham, died 1635/6.

This Thomas is a vital link connecting the English forebears of Dr. Benjamin with their American descendants, for it was John Rush, the second son of this Thomas, who married at Banbury in 1648 and arrived at Philadelphia as an immigrant in 1683.

In the *Visitation of Essex* made in 1634 and already mentioned elsewhere, Thomas Rush, gentleman, was then alive and resident at Boreham, having married Thomasine (or Thomazin), the daughter of John Stansted of Springfield, Essex. From the complex and interesting "Last Will and Testament" which he left, it is evident that he had deep affection for his wife. A transcription of this document will be found

in Appendix. 1.

From the parish registers of St. Andrew's Church, Boreham, and from their father's will it has been possible to identify the children of Thomas and Thomasine; they were six in number: Thomas, Thomasine, Jane, Frances, John and Mary.

5. *Thomas, the elder son.*

He is known to have served abroad as a subaltern in the Marquis of Hamilton's Scots Brigade and in 1640 was a lieutenant in that regiment under the command of Sir Nicholas Byron. He seems to have been a professional soldier.

At the outbreak of the Civil War, many troops serving on the Continent were recalled home, and there can be no doubt that Thomas was amongst them; being a professional soldier, he seems to have supported the Parliament cause - as did all the Rush family by repute - and his name appears next in Peacock's list of officers both Cavalier and Roundhead, as a captain in the regiment of Sir William Fairfax. Other names were Francis Rogers, Edward Ordingsell, Michael Bland, Robert Wilshire, Robert Leighton and William Trunke. Each commanded a hundred men.

In an account of the battle of Edgehill, the first full-scale engagement in the War, published in the *English Historical Review,* the writer, Colonel W. G. Ross, indicated that the regiment of Sir William was present and in action. It does not seem to have distinguished itself, however, being overwhelmed by Prince Rupert's Cavaliers and pursued in disorder for some miles. After that, Sir William was sent northwards to join forces with his kinsman Lord Fairfax. Some time later Sir William met his death before Montgomery Castle.

Thomas survived the War and returned to his native village where he married "Bridgett." Her maiden name is not definitely known, though there are some grounds for thinking that she was a Bramston, since the Lord Chief Justice (Sir John Bramston) married a Bridgett Moundeford. The Lord Chief Justice and his brother William were both trustees of the will of Thomas Rush of Boreham (d.1635). Also, at a later date, this Thomas, now a lieutenant colonel, apparently sold the "Parsonage" which was of some importance judging by the testator's Will - to a Moundeford Bramston. Obviously, there was a basis of friendship in existence between the two families, even though the Bramstons were staunch Royalists.

"Bridgett," the wife of Thomas the lieutenant colonel, bore three sons, Massey, Edward, and Charles, and a daughter Thomazin. Thomas was active as churchwarden, treasurer, surveyor of the highways, and overseer of the poor as late as 1673, but it is a strange fact that neither his baptism nor his burial is recorded in the church register, and the same seems to be true of his wife. It is not easy to account for these omissions and no satisfactory explanation can be given. Thomas was born in a relatively quiet time - around 1620 survived the Civil War, and probably died about a quarter of a century after the active fighting had ceased - probably around 1673, which seems to have been the last year in which he signed the *Accounts for the Poor.* From the year when Elizabeth I died (1603) up to 1625 when Charles I came to the throne, there had been little interference with the affairs of the Church and records were generally kept reasonably well. It was not until the turbulent years of fighting and religious animosity that church registers tell their own story of neglect. In a small community such as Boreham, the clerk would be perhaps the only layman who could read and write, hence in many parish churches the entries of births, marriages, and burials are scanty or non-existent from around 1645 until the Restoration in 1660 when Charles II ascended the throne. Even during the stormy years of religious and political strife from 1660 until the king's death in 1685, registers were usually properly kept in many parishes, and so it is not easy to account for the omissions in the case of the Lieutenant Colonel Thomas Rush. In 1662 - the year which saw the charter of the Royal Society for the further study of science - the Puritan ministers were driven out of the parishes and churches which they had usurped, and clerks once more recorded the local history. In spite of the religious ferment in high places, small

communities seem to have been left undisturbed in large measure, which makes the omission of the burial entry relating to a former churchwarden, surveyor of highways and overseer of the poor even more inexplicable. Other omissions of course have come to light, so that of the lieutenant colonel is not the only one.

It will have been noticed that his eldest son was named Massey, either after Hugh Massey his stepfather, or possibly after his old commanding officer during the siege of Gloucester, Sir Edward Massey.

After the Restoration of the Monarchy in 1660, persons who had played any part in the arrest and execution of Charles I, or who had prominently supported the Puritan regime, were brought to trial for their offences. Major offenders were executed, but lesser ones were allowed to purchase their immunity from justice by paying a "fine." It is thought likely that the lieutenant colonel may have cleared his name from further imputation by naming his third son Charles, as well as by making a money payment.

6. *John, the 2nd son.*

According to the references in his father's will, John was a younger son and was in fact the youngest surviving child of his father's family. If his father may be regarded as the last of the line in the English branch of the Rush family, then John who migrated to the New World must surely be the first in the line of the American branch.

The records of the parish church show that he was baptised at Boreham on May 22, 1623, but from that time until the year 1683 when he migrated to America, very little is known of his doings. By Dr. Benjamin's own statement, John became a member of the Society of Friends (Quakers), and if it be correct, as the Doctor asserts, that his ancestor quitted England in a spirit of bitterness, then it is possible that John had suffered persecution; at least he would have known about it at first hand. After the Restoration in 1660, Royalist Oxford carried its revenge on non-conformists to extremes. There are several accounts of the malicious treatment of Quakers - frequently women - who suffered from mob violence to be found in the *Thomason Tracts,* and they make shameful reading.

Almost from the beginning of his reign, Charles II, himself a Roman Catholic, inaugurated an era of religious oppression. The Acts, all aimed at non-conformists directly or indirectly, produced a rising tide of popular indignation over the years. Here are some of them:

The Act of Uniformity (1662) threw out some thousands of Puritan clergy from the Episcopalian Church of England; some of them were men of piety and learning. The use of the Prayer Book was forced on them against their principles; in a more favourable atmosphere that might have been swallowed, but when their whole status as ministers was denied except they had been duly consecrated by a bishop, a breaking point had been reached. Moreover, any absence from Church worship in their parish church could cause them to be brought before an archdeacon who could inflict penalties.

The Conventicle Act (1664) punished with fine, imprisonment, and transportation after a third offence, all persons who met in greater number than five for any religious worship save for that of Common Prayer.

Next came the Five Mile Act (1665), which called upon all those non-conformist ministers who had been driven out, to swear an oath that it was unlawful in any circumstances to take up arms against the King, or to endeavour any alteration of government in church and state. In the event of a refusal, the unhappy minister was forbidden to go within five miles of any place where he had been accustomed to minister. The humiliation of non-conformists could scarcely go much further.

From 1660 until 1685, when Charles died, the story was one of increasing religious oppression combined with political turbulence: the struggle between a king (known to his intimates to be a Roman Catholic) opposed by a Protestant nation fearful at the prospect of another Romanist Stuart to succeed him. John Rush undoubtedly knew the state of things around him, and when in 1682 the Quaker William Penn founded Pennsylvania, the

prospect of a new land free from religious and political pressures must have sounded amazing, a god-sent and welcome haven of refuge. In the absence of any documentary proof otherwise, it is no wild guess that William Penn inspired in John Rush the decision to uproot and emigrate. Indeed one may be almost permitted to wonder why he delayed so long.

From his father's will, John was to receive legacies for his maintenance during childhood and youth, together with a lump sum of £200 payable on his twenty-first birthday. There was also the reversion of income drived from a property styled "the parsonage" held by John's father under lease from the Chapter of St. Paul's Cathedral; this income was willed first to the mother Thomasine, next to Thomas the elder son, and after the death of these two, to John. Unfortunately he never inherited it, for we learn from the *Autobiography* of Sir John Bramston (Knight of the Order of the Bath) that John's elder brother sold the lease to one Moundeford Bramston, and so it passed out of the possession of the Rush family altogether.

From the will of Thomas Rush senior, who died in 1635, it is plain that the "Lord Chiefe Justice" Bramston, who is named as a trustee in it, was the father of Sir John Bramston K. B. The Lord Chief Justice was also a knight - Sir John Bramston - and his brother was the William Bramston who is also named as trustee in the will.

Fig. 7. The Old Rectory at Boreham. This was the ancestral home of Thomas Rush (d. 1635) and here his second son John was born in 1623. It is the "Parsonage" mentioned repeatedly in the will of Thomas, who held it under lease from St. Paul's Cathedral, London. It was eventually sold to Moundeford Bramston, a connection by marriage of the Rush family, by John's elder brother (also Thomas), and so passed out of the family. (Courtesy of the Rev. William J. T. Smith.)

Figure 7 is a picture of the "Old Rectory" at Boreham, the birthplace of John Rush, who was baptised in the parish church there in 1623; this is undoubtedly "the parsonage" which figures so prominently in the will of Thomas Rush, who lived there. Exactly how and why Thomas sold the lease of "the parsonage" is not clear, but almost certainly the transaction must have had John's approval, because of his reversionary interest already mentoned. Quite possibly the matter was a family arrangement, and John's share of the proceeds may have helped to pay the considerable transport costs when he emigrated with his whole family to Philadelphia.

As mentioned earlier, the records of the Banbury Meetings of the Society of Friends show that John Rush married Susannah Lucas of Broughton near Banbury on April 8, 1648. The marriage entry reads: "John Rush of Hornton in the County of oxford tooke Suzannah Lucas to wife the 8th day of the 4th mo.th 1648." They lived at Hornton, about five and a half miles from Banbury, and between 1649 and 1673 ten children were born to them; their names and dates of birth are entered in the same register.

Apart from these few facts little else was known at the commencement of this search. For some years it was uncertain whether this John Rush was identical with (Captain) John Rush who was thought to have been the 2nd son of Thomas Rush and Thomasine of Boreham, baptised there in 1623, and who was known to have emigrated to America in 1683 with his family. John Rush came from a Parliament-supporting family, was of the right military age, and had an elder brother who was probably a professional soldier and who became a lieutenant colonel in the Parliament forces: the elder brother's example may easily have exerted influence on his younger brother in taking up arms.

However, it was by the discovery of the two wills - one by "Jane Russhe," sister to John and Thomas of Boreham, and the other by "Hugh Massey," the stepfather of Thomas and John - that positive proof could be claimed and established.

John's sister Jane could hardly have seen much of her younger brother from the time when he joined the Parliament Army, separated as they were by a distance which would have been deemed considerable in those times. The fact too that John, who had been baptised into the Established (Episcopal) Church of England, had changed his religion to that of Quaker may very well have given rise to family friction. Evidently Jane felt something more than a passing regard for her nephews James and Thomas. Being unmarried herself and having no children of her own, it would be natural for a maiden aunt to think of her brother's children who, whatever may have been the case in respect of their father, were innocent of any religious stigma themselves. Obviously the blood tie proved strong. Thomas, her elder brother, inherited the residue of her estate, and so Jane's dispositions seem fair enough; if because of family or other pressures she felt inhibited from leaving a legacy to her younger brother John, there was no good reason why her nephews should not be remembered in her will.

It is not clear how or why John joined the Society of Friends. In the disturbed religious atmosphere of the Civil War, there were many non-conformist movements arising from the hatred which the known Romanist leaning of the King (Charles I) and the High Church pressures of Archbishop Laud aroused. The Scottish Presbyterians, the Baptists (this latter worship brought from Holland by returning victims of persecution), the Brownists, the Independents, and the "Fanatiques" who so scared Samuel Pepys, all contributed to the ferment in men's minds during the seventeenth century.

Cromwell raised a regiment of "men of religion" regardless of their sectarian attachments, only asking that they should be good soldiers; he earned considerable unpopularity in some quarters by doing so. John Bunyan, an earnest Protestant, was numbered amongst Cromwell's men, as has been already noted; hence it is not really strange that John should be drawn into the Quaker community of Banbury. Very likely his conversion arose during his fighting career.

Whatever may have been the reason, it is

quite certain from the evidence contained in the registers at Boreham and Banbury that Jane's legacies to her nephews James and Thomas Rush could apply only to the children of those names born to her younger brother John Rush (baptised Boreham 1623) and his wife Susannah (Lucas).

Additional and, in some ways, stronger proof is furnished by the legacy of £20 bequeathed by Hugh Massey to "my Grandsonne-in-law ffrancis Russhe," the 4th son of John and Susannah.

As has been stated already, John's mother, Thomasine (Stansted), had married Hugh Massey after the death of her first husband, Thomas Rush, John's father; thus Hugh Massey was stepfather of John, and stepgrandfather of "ffrancis," John's 4th son, whose birth at Hornton in 1662, we have already noted. "ffrancis" was born in 1662, two years before the death of Hugh Massey, and so was presumably a "Grandsonne-in-law" in reality. Although he died in childhood, he was no doubt alive at the time of Hugh's death.

Since no other children named James, Thomas, and Francis appear in the family tree, the identification of John Rush of Boreham with John Rush the Quaker of Hornton who emigrated to America must be regarded as conclusive, the more so since the names of John's children recorded as arriving in Philadelphia in 1683 correspond exactly with the names shown in the Banbury Register where their births were recorded.

Although there is no entry in the Boreham register recording the marriage of Hugh Massey to Thomasine, relict of Thomas Rush - another unexplainable omission - the marriage was undoubtedly valid because the vicar of Boreham at the time, Paul Duckett, played a major role in the drafting of Hugh's "Last Will and Testament." Had there have been any doubt on the subject at the time, reference would certainly have been made to it, and in particular to the phrase "my beloved wife." No priest would have assented to that unless it were true.

A strange feature of this Rush family is seen in the entire absence of letters or correspondence of any kind. The context of the various wills herein quoted discloses no evidence of illiteracy in the family. The Thomas Rush will of 1635 allocated sums of money for the "better maintenance" of his sons during childhood and youth. Presumably these moneys were intended for their education, although this is not specifically mentioned; otherwise, one wonders what object the testator could have had in mind at the time.

It would have been natural for parents and children to exchange news, more particularly during the anxious times of Civil War, when both sons were in the fighting. One might also have expected that in a house of the size and importance of the "Parsonage," where the financial conditions were easy, a book of household accounts, cooking recipes, or some such items of country life might have survived to furnish intimate family details.

Unfortunately, if any letters or records were ever written, none have survived, and so any eye-witness accounts of the current events of that day, which we might have read with enjoyment, are denied to us, making more difficult the task of piecing together such scraps of information as are now available, and of welding them into a coherent account. What a help a few personal letters would have been for the information of succeeding generations!

PART III. 1683-1745

"It is the land that freemen till,
That sober-suited Freedom chose,
The land where, girt with friends or foes
A man may speak the thing he will."[6]

In this part begins the American sequel to the story of John Rush, former cavalry trooper of Oliver Cromwell's New Model Army, who quitted his native land where religious dissension and persecution had made life unbearable for many of its inhabitants (Table II).

There can be little doubt that the lovely Oxfordshire village of Hornton, where he had lived with Susannah for thirty-five years, was often in his thoughts after they landed at Philadelphia in 1683, accompanied by a number of his children and grandchildren. Childhood memories of

family life at Boreham were now a distant, half-forgotten recollection. He had lived through the Civil War and fought in it along with his elder brother. As a Quaker, he must have endured his share of scorn and sneering, until the day arrived when the decision to emigrate was taken - emigration to a "land that freemen till," where a man, in the language of the nineteenth-century poet, "may speak the thing he will," but still it was an unknown land. "What's to come is still unsure" was no doubt the dominant theme in his mind.

It is appropriate to mention at this point that the further history of (Captain) John Rush and Susannah now rests upon firmer foundations. Dr. Benjamin's *Autobiography* itself furnishes much important matter and is reinforced by the manuscripts which descended to the Biddle family; some of these, at least, have been published. The decaying farmhouse at Byberry and various gravestones recording the death and burial of some ancestors of Dr. Benjamin remained until the City of Philadelphia, in a tragic mistake, razed the house in 1969. Through the efforts of the Benjamin Rush House Committee, led by Robert Erwin Jones, M.D., the house will be re-erected in Benjamin Rush State Park, a new 275-acre park legislated by the Commonwealth of Pennsylvania in 1975 near the original Rush homestead.

Many writers during recent years have studied and examined carefully the known facts, medical and historical, concerning the Doctor, and in view of the volume of literature on the subject, only a very brief sketch of his ancestors from 1683 onwards is here attempted. If fuller details are desired, a good and modern account will be found in Carl Binger's *Revolutionary Doctor,* and of course Dr. Benjamin's own *Autobiography* (edited by Dr. George Corner) should be consulted as a start.

After arriving at Philadelphia, the immigrants' first concern would naturally be to find a home in this New World - a place where the family could settle and labour and such a spot they found at Byberry. For more than sixty years this was the centre of the Rush family life, and it was not until after the birth of Dr. Benjamin there on Christmas Eve, 1745 that it ceased to occupy that position.

At the time Byberry was a small farming settlement, largely Quaker, on the banks of the Delaware River about 12 miles upstream from Philadelphia.

The exact size of the family which came to Philadelphia in 1683 is somewhat uncertain. Dr. Benjamin asserts in his *Autobiography* that John and Susannah brought with them eight children and several grandchildren. The entries in the register of the Banbury Meetings of the Society of Friends record ten births, but three of the children died in England:

> *James,* born at Hornton on July 21, 1664, died there on January 24, 1671, and so did not live to receive the legacy bequeathed to him by his aunt Jane.
>
> *Thomas,* his elder brother, born at Hornton on September 9, 1654, died at London on April 18, 1676; he did receive the legacy from his aunt.
>
> *Francis,* born at Hornton on February 8, 1662, died in childhood, also at Hornton. He was the "grandsonne-in-law" mentioned in the will of Hugh Massey who died in 1664; whether the legacy of £20 was ever received by John and Susannah on behalf of the child is not known.

It follows from the foregoing that Dr. Benjamin's figure of eight children cannot be supported by facts; quite certainly only seven children were alive at the time of embarkation for Philadelphia. The number of grandchildren who arrived with the party is a matter of guesswork. If John and Susannah brought seven children with them, then amongst them would be Elizabeth, who married Richard Collett, Susanna, who married John Hart, John, whose wife is not mentioned by name, and Jane, whose husband was John Darke. All of these may have brought their offspring with them, though their names and numbers are of no great importance to us in this account.

William, however, the eldest son, is another matter, since it was through him

that Dr. Benjamin traced his descent. He was born at Hornton, and the Banbury register shows his birth under the date of May 31, 1652. William first married in England "Aurelia," whose maiden name is not given. There were three children, all presumably born at Hornton, though no actual entries have been noticed: Susannah, born in 1675; Elizabeth, in 1677; and James, in 1679. It may be taken for granted that those three grandchildren were included in the party, since all of them married and settled at Byberry eventually.

Whether Aurelia died before 1683 is uncertain but probable; it is certain, however, that William married a second time between the year 1683 when he came to Pennsylvania and 1688 when he died at Byberry. Again the name of this second wife had not been recorded, but she gave him a daughter, Sarah, born in 1685 and a son, William, born in 1687.

James, born in 1679 to William and Aurelia, was the heir, being the eldest son of his father and the eldest grandson of John and Susannah. Dr. Benjamin states that he was a farmer and a gunsmith, living on a farm on Poquessing Creek at Byberry. It is known that he married Rachel Peart and died at Byberry on March 16, 1727 in his forty-eighth year.. There were nine children of the marriage; two died in childhood and two others, William and Thomas, died unmarried. The most important member of James' family and the inheritor of his father's 500-acre farm as well as his business as gunsmith was the eldest son and heir, John.

John was born at Byberry in 1712 on the family farm which had been the permanent home of the original settlers and was still that of their children and grandchildren. It was in this house that Dr. Benjamin Rush was born on December 24, 1745 (Old Style, or January 4, 1746, New Style).

John married Susanna Harvey (nee Hall), as Dr. Benjamin relates, and seems to have been a man of integrity. He died in 1751, and what little is known of him now derives chiefly from accounts of his character and personality transmitted by Susanna to her son, who was only five years old at the time of his father's death. John was Susanna's second husband; her first marriage seems to have been an unhappy affair which ended after only a few years as a result of intemperance and prodigality on the part of her husband Joseph Harvey.

Susanna was a woman of great industry and character. When John died at the age of thirty-nine, he left her with a small income derived from three houses in Philadelphia. He had quitted Byberry some little time before and was carrying on his trade as gunsmith at a house in Front Street, Philadelphia. This house at one time had been the property of his mother, Rachel (Peart). All things considered, John's death might easily have been a crippling blow. With six children to rear and educate on a totally insufficient income, a less determined woman might have given up the struggle as hopeless, but with great courage Susanna opened a grocery shop in some nearby premises. She called it the "Blazing Star," and from the profits of groceries (to which the sale of liquor was later added), her children received the education which they would have had if their father had lived a few years longer.

John, no doubt, would have been proud of his son had he survived long enough to watch Benjamin's progress through life. It was surely a fortunate circumstance that Susanna was a woman of such determination, otherwise poverty might well have stifled Benjamin's gifts, and, in the words of Thomas Gray, "froze the genial current of the soul."[7]

Sucess attended Susanna's brave struggle, for she had the happiness of seeing Benjamin graduate as B.A. at the early age of fourteen and apprenticed to Dr. Redman. At the age of twenty, Dr. Benjamin was entered as student at the University of Edinburgh. The expense of all this must have been considerable and a tax on his mother's resources, yet somehow the money was accumulated by this "best of mothers," as Dr. Benjamin later wrote. The epitaph was inscribed on her tombstone.

Susanna lived to see her son reach a position of eminence in the land. In spite of many vicissitudes, he was honoured in his generation and he is still remembered gratefully as the founder of psychiatric medicine in the country.

BENJAMIN RUSH, M.D.

It is unnecessary to proceed further. Dr. Benjamin's ancestry has now been uncovered as far back as the opening years of the sixteenth century, and so the object of this search has been completed. Henceforward his life and work have been well explored by doctors and historians. Letters and state papers have provided the material for writers who have studied every aspect of his colourful, if sometimes stormy, career. Although modern science has greatly improved the techniques of Dr. Benjamin's day, students in search of the origins of things do occasionally refer to Dr. Rush's early work, as was evidenced some few years ago by a Rhodes scholar who was engaged in a detailed study of the Doctor's theories as part of a research project.

Dr. Benjamin's courage was never in doubt - the signing of the Declaration of 1776 and his espousal of the anti-slavery cause have now passed into the history books. Both were great acts of faith. A rarer kind of courage was displayed by his war against the severe yellow fever plague which smote Philadelphia in 1793. The treatment he gave was no doubt wrong by modern standards, but at least the physician, at great personal risk and suffering to himself, stayed by his patients in the best traditions of the medical profession, giving them such comfort as he was able, whilst a victim himself.

Time has passed its own judgement on some of his political ideas. The murderous attacks on the lives and persons of some of the presidents of the great Republic he helped to found would have shocked and outraged him, for they were the negation of everything for which he had lived and fought.

On the other hand there is something faintly amusing in his efforts to dissuade his son Richard from entering into public life and employment as he himself had once done. Richard pursued a brilliant career as a statesman and diplomat, achieving eminence and distinction by his own exertions and taking his place in history beside other distinguished men of his time.

We who have the benefit of hindsight now know that Dr. Benjamin need never have felt concern for such a son at any stage in his career, but unfortunately the father did not live long enough to appreciate his son's work in repairing the breach in U.S.A. relations with Britain, in the making of which the father had played such a prominent part. Looking back, this is surely one of history's minor ironies.

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1. *Thomason Tracts.* British Museum Library.

2. This branch of the Rush family also claimed descent from Sir Thomas Rush the Serjeant at Arms, and the claim is very probably right, but the exact point of fusion with the Sudborne family has not been found.

   John Rush, who died unmarried in 1767, had amassed a large fortune which was inherited by his younger brother Samuel, who died also unmarried in 1783. Samuel bequeathed all his lands and houses in Suffolk, Essex, and Surrey, together with £20,000 in cash, to his distant kinsman Sir William Beaumaris Rush. Two other kinsmen of Samuel each received £106,000. These were enormous legacies for those days.

3. *The Army Lists of Roundheads & Cavaliers.* 1863. London: Edward Peacock, F.S.A. British Museum Library.

4. Hearth Tax. This is sometimes styled "chimney money" and was levied for revenue purposes on the number of chimneys to a house during the reign of Charles II. In 1668 the town of Northampton was destroyed by fire and a Royal gift to the stricken inhabitants was for 1,000 tons of timber from Royal Forests and a remission of "chimney money" for seven years.

5. *Who Would True Valour See, Hymns Ancient & Modern* (Revised Version), No. 293.

6. Tennyson, Alfred, Lord. *Love Thou Thy Land.*

7. Gray, Thomas, *Elegy Written in a Country Churchyard.*

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APPENDIX I

The Last Will and Testament of Thomas Rush of Boreham, 1635/6

I Thomas Rush

In the name of god Amen. The fower and twentith day of November Anno Dni. 1635; I Thomas Rushe of Boreham in the countye of Essex gent being of good and perfect memorie and mind thanks be given to god doe and make this my last will and testament in maner and forme followinge first I recomend my soule into the handes of Almightie God my creator trustinge thougrowe the death and merrits of Jesus Christe his onely sonn my onely Saviour to have full remission of all my sinne and my body to be buried in the chansell of the p'ishe churche of Boreham at the discretion of my executrix hereafter named. Touching my worldly estate I dispose thereof as followeth. First I give and bequeath unto Thomazin Russhe my wellbeloved wife all my rectorye or p'sonnage of Boreham with the tythes thereunto belonging and other appurtenances for and during her naturall life, and after her decease I give and bequeath the same unto Thomas Russhe my sonne during his life and after his decease I give and bequeath the same to John Russhe my youngest sonn during his life.

Item I doe give and bequeath unto my said wife Thomazine Russhe all my houses and landes situate lying and being in Boreham in the countye of Essex th'appurtenances wich I had to me from William Wilkes of Boreham in the county aforesaid to have and to hold the said houses and landes with the appurtenances to her and her heires for ever.

And my will and meaning is that if the said morgage be redemed. Then I will that the money that shalbe received for the same shalbe and remayne to my said wife for and towardes the payment of my childrens portion hereafter mentioned.

Item I doe likewise give and bequeath unto my said wife one statute wich I have from francie smithe of Boreham for the payment of a certayne some of money provided alwayes and my will and meaninge is that after my death my said wife Thomazin Russhe shall pay unto my said sonn Thomas Russhe for his better maintenance the some of eight powndes by the yere during her natural life by two equal portions: that is to say at the feastes of th'Annunciation of our Lady Marye the virgine and the feast of Saint Michaell th'archangell the first payment to begin at the first of these feastes wich shall happen and likewise my meaninge and will is that if my said sonn Thomas Russhe shall live to accomplishe th'age of one and twentie yeeres that then my said wife shall pay unto him for his better maintenance the some of sixeteen powndes at the two usual feastes aforesaid viz. eight powndes at the feast of th'annunciation of our Lady and eight powndes at the feast of Saint Michaell wich shall first happen after th'accomplishment of the full age of one and twentie yeeres.

And if it shall happen the said yeerly rent or annuitie of eight powndes or sixeteen powndes or any pte thereof to be behinde and unpaid then my minde and will is that the said Thomas Russhe my sonn respectively shall enter into and upon the said rectorye and p'sonnage with th'appurtenances and ther and upon any part thereof to distraine for the said rent of eight powndes or sixeteen powndes the said distresse or distresses ther so taken and had to detayne and keep for and untill the said Annuitie or rent of eight or sixeteen powndes be or shalbe well and truly satisfied contented and payed accordinge to my will and meaninge.

Item I give and bequeath unto John Russhe my sonn the some of two hundred powndes of good and lawful money of England to be paid unto him at th'age of one and twentie yeeres And also I doe give and bequeathe unto my said sonn John Russhe the some of ten powndes to be paid by my executrix unto him yerely during her life after suche tyme as he shall accomplishe the yeeres of one and twentie And likewise my meaning is that if my said sonn Thomas Russhe should die and my wife Thomazin should survive that then I doe give and bequeathe unto my said John Russhe that sixeteen powndes yerely wich I gave unto my said sonn Thomas during the life of the said Thomazin my wife to be paid

halfe yeerly as I have appointed unto my said sonn Thomas and if it shall happen that the said yeerly rent or any part thereof of the tenn powndes first bequeathed or of the sixeteen powndes wich may acrue unto him by the decease of my sonn Thomas shalbe behinde and unpaid Then my minde and will is that my said sonn John Russhe respectively shall enter into and upon the said rectorye and p'sonnage with th'appurtenances ther or upon any pte. thereof to distreyne for the first said rent of tenn powndes as likewise for the second yeeres rent of sixeteen powndes if it acrue dewe to him by the decease of his brother aforesaid and the distresse or distresses there soe taken and had to deteyne and keep for and until suche tyme as the said rent or rentes with th'arrerages thereof according to my will and meaninge shalbe well and truly satisfied contented and payed.

And if it shall happen the said John my sonn to die before he shall accomplishe the full age of one and twentie yeeres that then the said some of two hundred powndes before to him bequeathed shalbe paid to my daughters Thomazin Russhe, Jane Russhe, Francis Russhe in maner and forme followinge viz. to Thomazin my daughter the some of fiftie powndes to Jane my daughter the some of one hundred powndes and to Francis Russhe my daughter the some of fiftie powndes being the remainder of the said some of two hundred powndes my will and meaninge is that if Thomazin Russhe my wife shall happen to dye before my sonn Thomas shall accomplishe the full age of one and twentie yeeres that then my sonn John shall have and retyne halfe the rente and proffites that shalbe paid or are so out of the p'sonnage or rectorye until suche tyme as Thomas my sonn shall accomplishe the full age of twentie and one yeeres.

Item I give and bequeath unto my daughter Thomazin Russhe one hundred and fiftie powndes of good and lawful money of England. And I doe give and bequeath unto my daughter Jane Russhe the some of two hundred powndes and I doe give and bequeath unto my daughter Francis Russhe the some of one hundred and fiftie powndes of lawful Englishe money. All wich somes my will and meanige is shalbe paid unto them and every of them at suche tyme as they shall accomplishe th'age of twentie yeeres and one or dayes of marriage wich shall first happen and provided also that if it shall happen any of the said daughters should dye before they shall accomplishe their ages of twentie and one yeeres or dayes of marriage wich shall first happen. Then my will and meaning is that the pte and portion of them so dying to be equally devided and paid unto the survivor or survivors that shalbe then livinge. And my will and meaning is that my wife have the benefit of all my childrens portions for their maintenance and education until they shalbe of th'age of twentie and one yeeres or to be married conditionally that she herself shall live unmarried soe longe. But if my said wife shall happen to marry againe Then my will is that he to whom she shalbe married shall enter into a bond with securitie in a penall some to my brother Bramston lord cheife justice and my brother William Bramston and my loving frend mr. will warde of Boreham with condition endorsed to pay unto my said sonnes Thomas and John likewise to my said daughters their severall portions at such tyme and tymes and suche maner and forme as is by this my last will and testament specified and declared wich if he whom she shall happen to marry shall not p'forme before she be married Then my will and meaninge is tyat the portions of my said children shalbe presently paid and delivered into the handes of my said brother John Bramston lord cheife justice and my brother William Bramston and william Ward aforesaid and in the meantyme they to maintaine and educate them therwith.

Item I give and bequeathe unto my said brother Bramston lord cheife justice fortie shillings to by him a ringe.

Item I give unto my mother Mrs. Stansted one gold ring wich was given me by my aforesaid brother.

Item I do give unto my loving frend mr. James Thwaites 20 s. to buy him a ringe.

Item I do give unto the poore people of Boreham fortie shillings to be paid unto the overseers of the poore of the parishe for the tyme being to be distributed by them at their discretions.

Items I give unto sovannt John Oates one of my best suites with dublet and hose and cloake to be delivered to him p'sently after my decease. The remainder of all my landes goods chattells plate household stuffe whatsoever I give and bequeath unto Thomazin my welbeloved wife whom I doe make my sole executrix of this my last will and testament intreating her to see my funeral discharged and legacies p'formed. I doe intreat my said brother Bramston lord cheife justice my loving frendes mr. James Thwaites, mr. wm. ward and my brother mr. W. Bramston to be overseers of this my last will and testament and I doe intreat my executrix that she doth all things concerninge my estate and my childrens portions by th'advise and discreton of my said brother the lo: cheife justice.

Item I doe give and bequeath unto mr. wm. ward 20s. and to my brother Wm. Bramston 20s. Alsoe my will and meaning is that if it shall happen my sonne Thomas dye before my son John Russhe that then the aforesaid two hundred pownds bequeathed unto my sonn John shalbe given to my aforesaid daughters viz to my daughter Thomazine Russhe fiftie powndes and to my daughter Francis fiftie powndes to my daughter Jane one hundred powndes. In witness thereof I have hereunto set my hand and seale.

Thos. Russhe

Sealed & delivered in
the p'sence of us

Probate granted
May 1636

The legacy of "one of my best suites with dublet and hose and cloake" is interesting. As a young man it is probable that he formed one of the Rush household at the "Parsonage" whilst studying for a degree, at a later vicar of Boreham was actually a John Oates. John may well have been employed as a tutor to the family whilst staying at the "Parsonage." [*Author*]

APPENDIX 2

Last Will and Testament of
Jane Russhe of Boreham, 1664

In the name of God AMEN. I Jane Russhe of the parish of Boreham, Spinster, being in perfect memory doe make this my last Will and Testament. First I doe bequeath my Soule to Almightie God hopeing to be saved by the alone merrits of my Saviour Jesus Christ. And my Body to be decently buried in the Chancell of Boreham. And for what estate God hath blessed me with all I doe dispose of in manner and forme following.

Item. I doe give and bequeath unto my beloved Neices Angellica Russhe and Marie Dalby twentie pounds apiece to be paid unto them two yeares after my death.

Item. I doe give and bequeath unto my beloved Nephews Thomas Barker and James Russhe five pounds apeece to be paid unto them when they shall be at the age of one and twentie yeares.

Item. I doe give and bequeath unto my beloved Nephew Thomas Russhe five pounds to paid unto him two yeares after my death. I doe give and bequeath unto the poore of the parish of Boreham thirty shillings.

Item. I give and bequeath unto my deare Mother Thomasine Massey my emerald Ring.

Item. I doe give and bequeath to my beloved sister in law Bridgett Russhee all my wearing aparrell to be divided betweene Bridgett and Angellica Russhe as the same Bridgett shall seeme meete.

Item. I doe give and bequeath more to my sister Bridgett Russhee my Jewell wch. is an Amytis wth. three pearles.

Item. I doe give and bequeath to my loving friend Dorothy Thwaites the elder forty shillings to buy her a Ring. And I doe give unto my beloved Brother Thomas Russhee all the rest of my estate whatsoever and I doe make my said Brother Thomas Russhee my sole and only executor to this my last Will and Testament. And I doe by this make null and voide all former wills whatsoever. Witness my hand this twentieth day of Aprill 1664.

Jane Russhe

Witnessed by marks of
Dorothy Thwaites the elder
Dorthy Thwaites the younger.

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APPENDIX 3

Last Will and Testament of
Hugh Massie of Boreham, 1664

MEMORANDUM that on or about the first day of Aprill in the year of our Lord God 1664 Hugh Massie of Boreham in the Countie of Essex, Esquaire, lyeing then very sicke and weake of the disease wherof he died being in perfect minde memory and understanding and with a full purpose and intent to order and dispose of that estate wch. he had made and declared his last Will and Testament nuncupative or by word of mouth in theis word or words to the like effect following viz.

Item. I give and bequeath unto my Grandsonne in law ffrancis Russhe twenty pounds of lawfull English money.

Item. I doe give and bequeath unto my grand daughter in law Mary Dalby twentie pounds of like lawfull English money.

Item. I give and bequeath unto the poore of the parish of Boreham thirty shillings.

And all my other estate whatsoever I doe give and bequeath unto my beloved wife Thomasine Massie whom I doe make and appoint my sole and alone Executrix to this my last Will and Testament. All which said words or the like in effect, he the said Hugh Massie did then audibly and sensibly speak and utter in the presence and hearing of Mr. Paul Duckett Vicar of Boreham aforesaid and of the said Thomasine Massie his wife.

PaulDuckett
Thomasine Massie

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APPENDIX 4

February 5th 1644/5

"Proceedings of the Committee of both kingdoms this day. Present Earls of Essex, Warwick, Manchester and Lauderdale, Lord Wharton, Sir. G. Gerard, Mr. Recorder and Messrs. Wallop and Kennedy.

Ordered:

That letters for convoy of Col. Massie's money may be signed and sent. That the commission and instruction for Sir Charles Coote to be President of Connaught be reported to the House (of Commons) tomorrow.

The Committee of both kingdoms to Col. Massie.

Your sad condition so fully and pathetically expressed in your letter of the 21st ult. sent by Lt.-Col. Rush, we are as sensible of and as much affected with as we have ever been by what you have both done and deserved, the memory whereof is so present to us as we shall need no other solicitor than itself to represent it, or to obtain what so much good service and merit may challenge."

The above is part of a letter mentioning the name of Lieutenant Colonel Thomas Rush, the elder brother of Captain John Rush of Hornton and of Jane Rush of

Boreham whose will is Appendix 2. Public Record Office, Calendar of Domestic State Papers of Charles I. Interregnum 86 Day Book of Orders, pp. 96-97.

The Sir Charles Coote mentioned married Mary, the 3rd daughter of Sir Francis Rush of Jordans Castle, Ireland, and was a connection by marriage of Thomas Rush of Boreham, John's father. For the connection, see pedigree of Rush of Sudborne.

The siege of Gloucester was a notable event. At a time when the Royalist forces had triumphed everywhere in the western counties, and had seized the port of Bristol then the 2nd port of the kingdom - Gloucester alone stood firm for Parliament. This explains the mention of good service in the letter. Sir Edward Massie's courageous defence was noted, and efforts were made immediately to send money and reinforcements under armed convoy by a roundabout route, thus breaking the siege. [*Author*]

APPENDIX 5

The Autobiography of Benjamin Rush: "Travels through Life" together with his Commonplace Book for 1789-1813

John Rush and Susanna his wife arrived in Pennsylvania from England in the year 1683 with eight children and several grandchildren. Their names and ages may be seen in a list of his descendants, preserved with sundry letters, notes, etc. of his family in my box of private papers. He had commanded a troop of horse in Cromwell's army and was personally known to, and respected by Cromwell, as an active and intelligent officer. One of his grandsons Thomas Rush who used to visit me about the year 1770 and 1771, and who was then about 84 years of age, passed the first 13 or 14 years with him, and received from him many details of his battles and skirmishes one of which was as follows: He was once ordered out with the command of a reconnoitering party. Soon afterwards his mare came into camp without him. Cromwell saw her and said "Poor Captain Rush is no more. He has not left a better officer in my army." Soon afterwards he came in, covered with mud, and was received with great joy by all his brother officers. In a retreat his mare had fallen into a ditch, and thrown him off. The enemy thought him dead, and pursued his mare. After they had left the ditch, he rose and came into camp. The mare he rode was a grey colour. In honor of this event, Thomas Rush his grandson always rode a grey mare. I know nothing of his family in the part of England (Hortun, Oxfordshire) from which he came. The name of Rush is an ancient one in that County, and very common in the two adjoining counties of Leicester and Berkshire. It is a sufficient gratification to me to know that he fought for liberty, and migrated into a remote wilderness in the evening of his life in order to enjoy the privilege of worshipping God according to the dictates of his own conscience. He with his whole family were Quakers when they arrived. They afterwards joined the society of George Keith . . . .

I am the eldest son of the 5th generation descended from him. The names of the intermediate links of the family are William, James and John. William died in his 38th year at Byberry: his eldest son James died at about 47 upon his farm on Pequistian (Poquessing) Creek in Byberry, near the Bristol Road . . . . . My father succeeded to his business, which was that of a gun smith, and to his farm, on which he lived for many years. He removed to Philadelphia to a house in Front Street which belonged to his mother, where he followed his trade with great industry and success for a few years. He was a very ingenious man, and so strictly just that one of his neighbours used to say of him, that "the highest character that could be given of a man wass to say he wa as honest as John Rush."

The Many Faces of Benjamin Rush: A Bibliographic Introduction

*By LISABETH M. HOLLOWAY, M.S. in L.S.**

The paradoxes and complexities of Benjamin Rush, - patriot, reformer, physician - have always puzzled his biographers. Soon after his death in 1813, his sons, Richard and James, attempted to prepare their father's *Autobiography* for publication, in spite of his express instructions to the contrary. They grew discouraged over possible repercussions of certain controversial political passages. Again in 1845 the project was revived, and again abandoned. Access to the manuscript of the *Autobiography* and to other papers was almost universally forbidden during James's lifetime, while exaggerated rumors flew about, darkening Rush's political and professional reputation for much of the nineteenth century. In 1905, his greatgrandson, Louis Alexander Biddle, at last published an expurgated version of the *Autobiography,* in a very small edition. Not until 1943, when Biddle's papers were sold at auction, did the *Autobiography* and some other papers come into institutional custody, that of the American Philosophical Society, which wisely put them into the editorial care of George W. Corner.

The result (*The Autobiography of Benjamin Rush; His "Travels through Life" together with His Commonplace Book for 1789-1813,* edited with introduction and notes by George W. Corner; now first printed in full from the original manuscripts in possession of The American Philosophical Society and The Library Company of Philadelphia; Princeton, Publ. for the American Philosophical Society by the Princeton University Press, 1948) is at once the basic document for all students of Rush, and the most successful biographical reflection of Rush's contradictory personality. Corner did indeed see his subject plain, as very few others have been able to do. He is unafraid of such terms as "contentious and sometimes wrongheaded" or "sensitive and overwrought," and in calling Rush a "tense spirit" he has found perhaps the *mot juste:*

> Most of the misunderstanding of Benjamin Rush, as of other complex personalities, results from oversimplification. . . . He has been called wise, and again foolish; generous and egotistic; a genius and an intellectual fumbler; a scientific materialist and a believer in revealed religion. That he was all of these at once is shown by the intimate records here printed.

Rush's summary of his career and his *apologia* having been digested, the reader is now prepared to observe him in his relations with his family, friends, students, antagonists, and political correspondents. Lyman Butterfield's excellent selection of letters (some 650) in his *Letters of Benjamin Rush* (Princeton, Published for the American Philosophical Society by Princeton University Press, 1951; 2 volumes, with a few additions in the Supplement) (*Pennsylvania Magazine of History and Biography* 78:3-44, 1954) is illuminated by succinct and thorough annotation. Between letters and footnotes, one is introduced to a great many important figures of the eighteenth century.

> A man who could remain on intimate terms with men of such diverse character and political views as Adams, Jefferson, Pickering, Dickinson, Gates, Greene, Madison, Peters, Wayne and Rittenhouse did not stand alone against the world. And to this company of his friends and admirers in public life must be added others from the learned world: Price, Priestley, Belknap, Lettsom, Ramsay, Waterhouse, Samuel Miller, Samuel Stanhope Smith, and Noah Webster.

From the lively and easy style of Rush himself, and the unsentimental affection with which Corner and Butterfield view him, it is something of a disappointment to turn to the slow and measured pieties of his eulogists in 1813 and 1814. Two of these

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*Curator, Historical Collections, Library, The College of Physicians of Philadelphia.

exemplify the rest: David Ramsay, *An Eulogium on Benjamin Rush,* . . . written at the request of the Medical Society of South Carolina, and delivered before them and others, in the Circular Church of Charleston, on the 10th of June, 1813, and published at their request; Philadelphia, Bradford and Inskeep, 1813; and David Hosack, *An Introductory Discourse* . . . and a tribute to the memory of the late Benjamin Rush; New York, Printed by C. S. Van Winkle, 1813.

The first important biography of Rush after his century of comparative oblivion was Nathan Goodman's *Benjamin Rush, Physician and Citizen, 1746-1813;* Philadelphia, University of Pennsylvania Press, 1934. Although necessarily incomplete, since much important original material had not yet surfaced, this first textbook on Rush remains influential for its balance and moderation of judgment, and for its valuable compilation of Rush's own writings and of the many odds and ends of secondary work published before 1934.

Certain aspects of Rush's career have developed a literature of their own. His political activities during and after the Revolution have been recorded or discussed by Paul Leicester Ford, in "Dr. Rush and General Washington," *Atlantic Monthly,* May, 1895, pp. 633-640; by S. Weir Mitchell, who extracted Rush's notes on the Continental Congress and on his medical service with the army, in "Historical Notes of Dr. Benjamin Rush, 1777," *Pennsylvania Magazine of History and Biography* 27:129-150, 1903; by J. D. Donald in "Dr. Benjamin Rush and the American Revolution," in *Proceedings of the American Philosophical Society* 110:227-234, 1966; and by Donald J. d'Elia, "Benjamin Rush: Philosopher of the American Revolution," *Transactions of the American Philosophical Society* . . . , New Series, Vol. 64, Part 5, 1974. David Freeman Hawke's *Benjamin Rush, Revolutionary Gadfly* (Indianapolis, Bobbs-Merrill, 1971 in covering the first 48 years of Rush's life, puts him very much into twentieth-century perspective. Here are to be found an abundance of incident and quotation, and some useful bibliographical commentary.

Rush as reformer took up a wide spectrum of causes, too many even to be summarized here. In respect to his anti-slavery activities, a reference may be found as early as 1808, in Thomas Clarkson's *The History of the Rise, Progress, and Accomplishments of the Abolition of the African Slave-Trade by the British Parliament;* Philadelphia, J. P. Parke, 1808; 2 volumes; also in Mary S. Locke, *Anti-Slavery Sentiment in America, 1619-1808;* Boston, Ginn & Co., 1901. His interest in the temperance movement can be understood against its background as shown in Richard Eddy's *Alcohol in History, an Account of Intemperance in All Ages; together with a history of the various methods employed for its removal;* New York, National Temperance Society and Publication House, 1887; and Asa E. Martin, "The Temperance Movement in Pennsylvania Prior to the Civil War," *Pennsylvania Magazine of History and Biography* 49:105-230, 1925. On the subject of education for women, he would hardly satisfy twentieth-century liberationists; nevertheless, as to both quantity and quality of female education, Rush's standards were well ahead of the common lot of well-born American women of the time. Goodman cites Thomas Woody's *A History of Women's Education in the United States;* Lancaster, Pa., Science Press, 1929; 2 volumes.

Probably the most enduring controversy swirling about Rush's head concerns his medical opinions and practice. The late Richard H. Shryock (the author, incidentally, of the DAB's notice of Rush) produced a broad bibliographic survey and a sophisticated evaluation in "The Medical Reputation of Benjamin Rush" (*Bulletin of the History of Medicine* 45:507-552, 1971). Candidly admitting to having changed his mind several times in his long study of Rush, Shryock quotes William Cobbett, Rush's most energetic enemy, on his bleed-andpurge treatment of yellow fever ("One of those great discoveries which have contributed to the depopulation of the earth"), and Oliver Wendell Holmes ("Rush could not help feeling as if Nature had been a good deal shaken by the Declaration of

Independence"). He also quotes himself, in 1946: "Despite scientific and human limitations, [Rush] remains a striking figure in whom Americans in general and Philadelphians in particular may well take an unaffected pride." He notes the remark of Hunter and Macalpine, historians of psychiatry, that Rush's famous "tranquillizing chair" actually constituted more complete restraint than the chains which it was designed to replace, and conscientiously calls attention also to the comparative durability of Rush's reputation as "the Father of American psychiatry." Shryock's final judgment appears to have been as follows:

> Despite his devotion to medicine, I therefore think he was miscast as a medical thinker or scientist. With a flair for speculative synthesis and dogmatic certainties, he entered medicine just as its leaders were rejecting all that and trying to raise the field to Comte's "positive" (empirical) level. . . . His talents would have been more helpful, at least until recently, had he become an historian or sociologist concerned with interdisciplinary relationships. Or a lawyer, social reformer, or clergyman.

Even after the "Bicentennial fever" wears off - and how Rush would have bustled about! - it is doubtful that he will return to obscurity. In an interesting sidelight, in every sense of the word, Robert E. Jones has recently looked at the "Portraits of Benjamin Rush, M.D., by His Contemporaries" (*Antiques* 108:94-113, July, 1975). The excellent reproductions of 32 likenesses or versions of likenesses so thoroughly researched by Dr. Jones bear out what this writer has noted with amusement for some time, that everyone who looked at Rush quite literally seems to have *seen* him differently. (He comes with a long nose, a crooked nose, a snub nose; with a lantern jaw, a protruding jaw, and a merely firm jaw.) Here again it appears that Rush has bedazzled and mystified those who have attempted to understand and describe him, whether with paint or pen.

Even in so hasty and incomplete a survey of the literature of Benjamin Rush, one hopes that the reader may have caught a glimpse of this vivid, hurrying figure, so talkative, so opinionated, so oddly contemporary. So much a man of his time; so relevant to ours.

Memoir of Edwin Pierce Albright (1915-1976)

By ROBERT P. BARDEN, M.D.

At 8:00 P.M. on January 30, 1976, Edwin Pierce Albright, M.D., departed this life suddenly, violently, and unexpectedly. He was driving on the East River Drive in Fairmount Park with his wife, Mary, and two guests on the way to the Academy of Music and the Philadelphia Orchestra which he loved. A car in the opposite lane crossed and hit them head on. Dr. Albright, his wife, and one of their guests were killed instantly. I would like to honor the memory of my friend with a few words.

Edwin Pierce Albright was born in Philadelphia in 1915. He attended Germantown High School and Washington and Jefferson College in western Pennsylvania, from which he was graduated with an A.B. degree in 1937. His medical education was obtained at Temple University where he received an M.D. in 1941. This was followed by a rotating internship of fifteen months at the Allentown Hospital in Allentown, Pennsylvania. Then came the Second World War, and Edwin cut short his hospital training to enter the Medical Corps of the Army in 1942. He saw service as chief of the laboratory with the 235th General Hospital in the European Theater. He was discharged with the rank of captain in 1946 and at once opened his office for the practice of internal medicine. This he pursued diligently and dependably for the next thirty years in Mt. Airy and Chestnut Hill, where his name became synonymous with the finest example of a family physician.

In 1947 Dr. Albright joined the Medical Staff of the Chestnut Hill Hospital and contributed greatly thereafter to its growth and development. He was the director of medicine at Chestnut Hill from 1959 through 1966, and was chief of staff of this hospital in 1967 and 1968. From 1971 until his death, he acted as a consultant in medicine to this institution to which he had contributed so much.

Dr. Albright was a member of the Philadelphia County Medical Society and the American Medical Association. In 1963, he was elected a Fellow in the College of Physicians of Philadelphia.

So much for his professional attainments, which were outstanding. What can be said about the man himself? Edwin loved his life and took it in both hands. When you met him for the first time, you felt his joy in the world around him - his world, which provided him with so much. He painted it in watercolors and oils; he hunted deer in the winter hills and loved the solitude; he fished for the sail-fish or the large mouthed bass with the same gusto; and he played tennis with remarkable agility for such a big man. He was equally happy in his office with his patients, or at the bridge table with his friends, or dozing in a hammock over a book. He loved his life and the many, many people in it.

Edwin Pierce Albright carved for himself a place in the hearts of all he knew. It can be said of him that he left the world a better place than it was before he came.

This memoir was prepared and published at the request of the Council of the College of Physicians of Philadelphia.

Memoir of Paul A Bishop (1896-1976)

By THADDEUS L. MONTGOMERY, M.D.

Paul A. Bishop was born in Auburn, Indiana, on July 2, 1896. He pursued his preliminary education in that area and then entered the Premedical School of Jefferson Medical College in 1915. He matriculated at Jefferson Medical College in 1916.

At that time Jefferson had its own premedical course which provided a concentrated, arduous, and apparently successful preparation for the study of medicine, for the students of this preparatory school, immersed in the atmosphere and heat of the medical college, seemed to do better in study and subsequent practice than those who came from far-flung universities. This observation might have some significance to the Association of American Medical Colleges in their present deliberations.

Be that as it may, this heterogeneous body of freshman medical students assembled the evening of September 7, 1916, in the old amphitheatre of the Medical College for their opening exercises. This was the same surgical amphitheatre in which Thomas Eakins painted the world famous *Samuel D. Gross Clinic*. The exercises were addressed by the retiring dean, Dr. Holland, whose portrait, also by Thomas Eakins, hangs in the American Wing of the Boston Museum of Art under the title *Calling the Roll*. In the portrait Dean Holland is portrayed in his professional cap and gown holding a small book, precisely as he looked at our opening exercises in 1916.

What a memory for a beginning freshman class! The faculty procession contained W. W. Keen, J. Chalmers DaCosta, John H. Gibbon (the elder), Hobart A. Hare, Thomas McCrae, Francis T. Stewart, William Coplin, J. Parsons Schaeffer, William Brubacker, E. E. Montgomery, and others. I, the author of this sketch, sat next to a slender dark-haired young man from Auburn, Indiana. This occasion was the beginning of our medical college life together and of a lifelong friendship which I shall ever cherish.

Paul and I arranged our section work together and experienced in common the oftentimes amusing and sometimes distressing incidents that mark the four years of a medical student's life. We conducted together our twelve or more home deliveries on the maternity service. I remember so well how, during the blizzard of January 1920, he and I sat out the 24-hour labor of a little girl in the old Francisville section of Ridge Avenue, the patient having finally to be brought into the hospital for forceps delivery.

Paul was always excellent company and highly respected by his classmates. He was devoted to the study of medicine. The quality of his scholarship won for him the much-coveted internship at Episcopal Hospital. There, upon graduation from Jefferson in 1920, he served two years of rotating internship and two years as chief resident.

He then determined to enter the field of radiology, and, as was the custom of the time, sought and secured a preceptorship under Dr. David R. Bower at the Pennsylvania Hospital, 8th and Spruce Streets. From then on his professional destiny lay with this historic institution, first as assistant in radiology (1928-34), then as director (1934-62) and finally as consultant (1962-76). His firm connections at the Pennsylvania Hospital led to parallel teaching positions in the School of Medicine of the University of Pennsylvania, as guest lecturer in 1932-57, as professor in 1957-66, and as emeritus professor in 1966-76.

Fellow physicians of the Pennsylvania Hospital remember Dr. Bishop for his consistent help with the radiologic phases of their clinical problems and for his unselfish devoted leadership as president of the staff during difficult years after World War II. He played a major role in cementing the academic position of the Pennsylvania Hospital with the Medical Department of

the University of Pennsylvania.

Competence as a teacher and skill as a radiologist prepared Dr. Bishop to contribute widely to medical literature in his field and participate in many textbooks on the subject of radiology. His major interest lay in the area of obstetric pelvimetry and fetometry and on this subject he wrote for Hoeber and Co. his widely recognized book, *Radiologic Studies of the Gravid Uterus.*

Dr. Bishop was a member of the local and national societies having to do with radiology and was an officer in many, including the Philadelphia County Medical Society, American Medical Association, College of Physicians of Philadelphia, Philadelphia Roentgen Ray Society (president, 1933), American College of Radiology, American Roentgen Ray Society (vice-president, 1941; Council, 1948-51), American Radium Society, American Trudeau Society (president, 1951-52), and Radiological Society of North America.

In 1922, at the beginning of his chief residency at Episcopal Hospital, Paul married Ruth E. Baxter. They had been friends from childhood. It would seem that the two were ideally adapted to each other, for they lived until the moment of his death a life of understanding, companionship, and happiness. Ruth was a gifted pianist and with her other attributes provided in their home an aura of charm which was the delight of their intimate friends.

In this favorable atmosphere, further nourished by travel, Paul's natural instinct for the arts expanded, finding outlet in the Philadelphia Lyric Opera Company, of which he was secretary from 1965 to 1975, and in the Philadelphia Art Alliance.

Paul and Ruth Bishop were seen often among their friends at the Philadelphia Country Club of Gladwyne. They spent many months in Rome and Florence. Otherwise, after retirement, they lived quietly and contentedly in an apartment on Rittenhouse Square, Philadelphia. There Paul died on January 6, 1976.

This memoir was prepared and published at the request of the Council of the College of Physicians of Philadelphia.

Memoir of Peter A. Herbut (1912-1976)

By HERBERT A. LUSCOMBE, M.D.

Peter Andrew Herbut was born on July 6, 1912, in Alberta, Canada, where his parents had acquired a large tract of land for farming. His family was large, and his early days were filled with the joys of country living.

Peter Herbut received his medical degree from McGill University in Montreal, Canada, in 1937, and at that time was interested in a career in surgery. He interned in Wilkes-Barre, Pennsylvania, where he met Margaret Fetsko, the girl he later married. Here also he became interested in the study of pathology, and the following year he pursued his interest by accepting a residency in pathology at the Medical College of Virginia. It was here that he met Dr. Virgil Moon, then professor of pathology at Jefferson, who persuaded him to join the Pathology Department at Jefferson.

Dr. Herbut was appointed an assistant demonstrator in pathology at Jefferson Medical College in 1939 and thus began his distinguished career at this institution. He rose steadily through the academic ranks until June 30, 1948, when he was appointed professor of pathology and chairman of the Department. As an academic pathologist, Peter Herbut was unsurpassed. His investigation into the cytology of malignant disease was one of his most ardent quests and brought him renown and recognition in the form of two awards - first the McCrae Award presented by the Jefferson Society for Clinical Investigation in October, 1947, and second the Ward Burdick Award presented by the American Society of Clinical Pathologists in October, 1950. Over these years Dr. Herbut published more than a hundred scientific articles in his field and wrote four books on pathology - texts which were to become widely read and extensively used throughout the world. His excellence as a teacher was also recognized abroad and at home; the Jefferson graduating Class of 1961 honored him by having his portrait painted and presented to the Medical College.

But Peter Herbut had a mission beyond the confines of his specialty of pathology. His administrative ability and leadership were recognized by Jefferson and on September 12, 1966, he accepted the call to become the seventeenth president of the College. When inaugurated as president of Jefferson Medical College, Dr. Herbut announced plans to expand the institution and to develop a complete, medically-oriented university. These plans were realized when Jefferson received a full university charter on July 1, 1969, and by Act of Congress was declared the only university with the name of Thomas Jefferson University. In the following few years, Dr. Herbut's undergraduate College of Allied Health Sciences developed and matured and became a fully accredited undergraduate college. The other components of the University also thrived and expanded under his leadership.

During these years, Dr. Herbut received honorary degrees from the Philadelphia College of Pharmacy and Science in 1968 and from Washington and Jefferson in 1974. He was also honored by presentation of the Schaffrey Award from the Medical Alumni of St. Joseph's College in 1970.

But a further recounting of scientific and administrative accomplishments cannot do justice to a man like Peter Herbut, for he was a man who took his God-given talents and invested them and doubled or tripled their worth. He loved and understood music, particularly the old masters, and could discuss this art with a profundity seldom seen in a scientist of his calibre. As a result of this interest, he became a board member of the Little Orchestra Society of Philadelphia. He also had a deep interest in sports, to the extent that he knew the rating and membership of most teams in baseball, football and basketball, and could truly enjoy taking his grandchildren to a sporting

event. He was an excellent bridge player and was well known at Aronimink Golf Club, where he was a member, for his accomplishments in this mental exercise. He was also a religious man and a member of the Russian Orthodox Church, in which capacity he became a director of the Russian Orthodox Seminary, St. Vladimir, in New York.

But above all Peter Herbut was a gentle man, a kind man, a humble man, and in many respects a godly man, for he tried to bring happiness to all with whom he associated. He was a devoted family man and is deeply mourned by his wife, Margaret, by his daughters Paula Herbut and Linda Foulkrod and Linda's husband, Walter, and their three children, Scot, Andrew, and Jennifer Margaret.

He is also mourned and will long be remembered by his colleagues at Jefferson to whom he was a great gentleman and true friend.

This memoir was adopted by the Executive Council of Jefferson Medical College at its meeting on April 6, 1976, by a standing tribute to President Herbut. It is published at the request of the Council of the College of Physicians of Philadelphia.

Memoir of Paul H. Langner, Jr., M.D. (1910-1976)

By FRANK T. MANSURE, M.D.

Paul H. Langner, Jr., was born June 16, 1910, in Folsom, Delaware County, Pennsylvania. He graduated Phi Beta Kappa from the University of Pennsylvania and went on to graduate from the School of Medicine of the University of Pennsylvania in 1934. He was a member of Alpha Omega Alpha.

After a two-year internship at the Hospital of the University of Pennsylvania, Dr. Langner became an office assistant to Dr. Alfred L. Stengel and a teaching and research member of the Medical Staff of the University Hospital. He also worked with Dr. Richard Kern and was co-author of several papers on allergy.

In 1939, Paul Langner joined the Medical Department of the Provident Mutual Life Insurance Company, but continued his close ties with the School of Medicine. His interest in research continued, and during that period he published seven papers on glucose tolerance testing.

After service in the Army Medical Corps, he emerged from World War II as a lieutenant colonel. Upon discharge he returned to insurance medicine and on October 11, 1954, was elected Medical Director of Provident Mutual Life Insurance Company of Philadelphia, a position he held until he retired on March 30, 1973.

Dr. Langner was a member and leader in many organizations. He was a Fellow of the American College of Physicians, American Board of Internal Medicine (subspecialty, Cardiology), and a Fellow of the College of Physicians of Philadelphia. He served as president of the Heart Association of Southeastern Pennsylvania as well as chairman of its Research Committee and its Professional Education Committee. He was chairman of the Medical Section of the American Life Convention, assistant professor of medicine of the University of Pennsylvania School of Medicine, delegate to the National Assembly of the American Heart Association, and Fellow of the American College of Cardiology.

All of these, and other organizations, benefited from Paul's association with them, but his true and unrelenting interests were cardiac research and electrocardiography. In all, he authored about 60 papers, with the vast majority of these centering around hi-frequency electrocardiography. His particular genius accepted this unused concept, and by means of great drive, skill and intellect, he made it a recognized form of cardiac evaluation. Paul Langner had the rare gift of being able to see, with great clarity, an unrecognized but significant problem and then pursue it to a logical and fruitful conclusion. Because of this rare gift of the intuitive researcher, he could foresee and produce many new projects from current ones.

In addition to his scientific achievements, he was a talented musician. He spent many hours playing and enjoying his collection of cellos. A devoted father and husband, he will be missed by his family, friends, and the scientific community.

This memoir was prepared and published at the request of the Council of the College of Physicians of Philadelphia.

Memoir of Hans May (1902-1975)

By J. MONTGOMERY DEAVER, M.D.

Hans May was born in Oppeln, Germany, on June 22, 1902, and was graduated from the University of Freiburg in 1926. The following year he joined the surgical clinic of the University of Munich, where he received training in general and in plastic and reconstructive surgery under Dr. Erich Lexer. He served under Dr. Lexer for seven years, participating in his chief's scientific pioneering and working with him closely in writing and teaching. After Hitler's rise to power in 1934, Dr. May left Munich and came to Philadelphia.

Five days after he arrived in Philadelphia, he met the late Drs. Stanley P. Reimann and Edward A. Shumway. They invited him to attend a Lankenau Hospital "Kneipe." This was a Lankenau function - borrowed from Germany - at which the attending and house staffs feted departing interns at a party highlighted by the consumption of beer and the singing of songs. "It was a marvelous occasion," Dr. May told a reporter many years later. "That was the beginning of my Lankenau association." He joined the Lankenau staff the following year.

In 1953, when a Department of Plastic and Reconstructive Surgery was established at Lankenau, Dr. May was named its chief. From 1966 to 1967 he served as president of Lankenau's Medical Staff. He also was chief of plastic and reconstructive surgery at Germantown, Abington and Holy Redeemer Hospitals and St. Christopher's Hospital for Children. He was associate professor of surgery at the University of Pennsylvania's Graduate School of Medicine.

He was a diplomate of the American Board of Surgery and a member of the Founder's Group of the American Board of Plastic Surgery. He was a member of numerous national and international medical and surgical societies.

Dr. May was a prolific writer, publishing more than 75 articles on plastic, reconstructive and hand surgery. He was the author of a three-edition textbook on plastic and reconstructive surgery, the third edition of which was published in 1971.

He was the co-inventor of the Engel-May Two-Plane Direction and Range Finder for nailing broken hips.

Dr. May had many interests and associations, but his primary enthusiasm was always the Lankenau Hospital. Lankenau reciprocated the devotion. In 1969, when he decided to retire to his "dream house" overlooking the Caribbean in St. Croix, V. I., his Lankenau colleagues gave him and his wife a farewell dinner which overflowed the ballroom of the Philadelphia Country Club.

Harry R. Neilson, Jr., chairman of Lankenau's Board of Trustees, concluded a series of tributes with brief remarks that summed up the sentiments of the gathering: "It is with grievous regret that we see him go . . . . Dr. May is a gracious physician in the highest sense of the phrase - a rare blend of tact, talent and good humor."

In reply, Dr. May said he had a feeling he was listening to his own obituary. "I grieve for those who have gone beyond without hearing about all the fine things they have done," he said. In more sober vein he added, "The friendship ties that bind me to the Lankenau Family will never be severed. . . . I consider Lankenau a part of my heart."

The Medical Staff and ex-residents presented him with a silver tray engraved: "To Hans and Lisa May on the beginning of a long season of happiness from those of us whose lives were warmed by your kindness, understanding and service."

But the "long season of happiness" was not to be. Soon after his retirement he suffered a recurrence of a malignancy. Chemotherapy slowed, but could not halt the disease. It was in St. Croix that he died on July 23, 1975. He is survived by his wife, Lisa, two sons, William and John, and three grandsons.

This memoir was prepared and published at the request of the Council of the College of Physicians of Philadelphia.

Memoir of Walton Brooks McDaniel, 2d (1897-1975)

By ELLIOTT H. MORSE

Walton Brooks McDaniel, 2d, Ph.D., hereinafter identified as "McD" with respect and affection, served as editor of these *Transactions & Studies* for eighteen years, from 1937 to 1955. In the partial list of his publications prepared by himself, McD identifies sixteen substantive articles written for *T & S*. Three others are revealed in "A" Bibliographic Salute to W. B. McDaniel, 2d" by Lisabeth M. Holloway in the January 1974 issue of these *Transactions & Studies*. He wrote or participated in the writing of the Annual Report on the Library from 1934 to 1972. McD's trail of historiography and librarianship may be traced through at least seventeen other scholarly and professional journals.

A prodigious number of additional articles trace their being to his encouragement and guidance freely given to amateur and professional historians, both Fellow and non-Fellow. His eagle-eyed proofreading talent and bibliographic acumen saved many of his author friends from embarrassment.

McD was more comfortable as an intellectual pollenizer on a one-to-one basis than he was in larger groups where his traditional seat was at the back of the hall, his standing space on the fringe of the crowd. Symbolically, perhaps, his favorite vacation spot was Provincetown, about as far as one can go from mainland America without becoming totally insular.

This modesty and preference to be inconspicuous cannot be attributed to anything less than a distinguished academic background. He was graduated from the Boston Latin School, earned a Bachleor of Arts degree from Harvard and a Doctorate in Philosophy from New York University. McD practiced the teaching art in English at the University of Pennsylvania and in classical language and literature at New York University.

McD's publications include the *Poems of Catullus,* issued by Oxford University Press in 1931. Subsequently the Press secured his services as advisor on classical texts to the New York offices. Other faculty assignments include Brown University and the Brooklyn Preparatory School, before his acceptance of the librarianship of the College of Physicians in 1933.

The facts of library life soon disabused McD of the expectation of the quiet, intellectually rewarding life of research scholarship. Sixteen years later, when the College acceded to his wishes to return to his original mission by appointment as Curator of the Library's Historical Collections, he wrote to a favorite correspondent, the Osler Librarian, W. W. Francis, "As you may know, for some years past I have been increasingly rebellious at the lack of leisure and repose needed for the literary research and production that I was brought here for and that provides the only pleasure I have in work at all."

Despite this disclaimer, McD's record proves a whole-hearted dedication to the administrative and professional responsibilities of librarianship. In 1941 he recalled with pleasure his self-described avuncular participation a few years before in the coming-to-be of our Philadelphia Union Library Catalogue and confessed being somewhat of a fanatic on the subject. He was one of the charter protagonists of library cooperation and viewed union catalogs as the essential base for intelligent collection building and community interaction.

McD played a leadership role in the activity of the Philadelphia Metropolitan Library Council which convened the policy makers to assure the translation of conviction into action. He championed librarians' education of library users and the continuing education of librarians themselves, pleading for better references to the literature and the control of careless and

inaccurate writing. His book reviews reveal that physicians as well as librarians felt the sting of his concern when they were less than meticulous in writing.

An interest in the well-being of the then Army Medical Library led to his appointment in 1946 as an honorary consultant. He edited the *Bulletin of the Medical Library Association* from 1936 to 1937 and was president of the M.L.A. during 1946-47. This honor was preceded by a stint on the executive committee in 193637.

The high honor of delivering the keynote address at the opening session of the first International Congress of Medical Librarianship in London in July 1953 was accorded to McD. Speaking of the role of the medical librarian, he reminded his listeners that, "Life is short, and the art long: the occasion fleeting; experience fallacious, and judgement difficult." He said that the medical librarian "can be, should be, and commonly is, the sweet conciliator" between the medical researcher and the general practitioner and, "Whereas it is the lot of most workers in these days to learn more and more about less and less, the medical librarian's obligation and rare privilege is to learn less and less about more and more."

McD's own "more and more" is attested to by the listing of six articles, three reviews and a preface in the 1911-52 cumulative index of the *Bulletin of the Medical Library Association* and a further increment of two articles, one biography, one obituary, and three reviews in the 1953-62 cumulative index.

His real labor of love, however, was the *Fugitive Leaves from the Library.*[1] The first 24 issues which appeared between March 1935 and March 1938 covered such historical topics as a Letter from Benjamin Rush to John Morgan: the Plague Tract of Johannes Mercurius Corrigiensis, A Checklist of Illustrated Incunabula, and Earliest U.S. Medical Periodicals. After a hiatus of eighteen years occasioned by factors previously alluded to, *Fugitive Leaves* was revived in January 1956 with a new series of 49 numbers extending to November 1961.

In this series we find a facsimile of a Benjamin Franklin letter from the Gilbert Collection, the Graduation Oration of a Member of the First Medical School Class, a Catalogue of the Hering and College Paracelsus Collections, a Student Letter Comparing the Virtues of University of Pennsylvania and Jefferson Medical Schools in 1834, Identification of 18th Century American Medical Graduates of the University of Edinburgh and the University of Leyden, Historical Notes on the College Lectureships, and the First (1818) Catalogue of the College Library.

The table of contents of numbers 51-75 (January 1962 to January 1965) includes, in part, a Checklist of Early Illustrated Herbals, and Papers of C. E. de M. Sajous on the Two Decades of the Temple University School of Medicine.

The last run of *Fugitive Leaves,* numbers 76-91, covers 1965 to April 1967 and includes letters of John Morgan, Samuel Massey, and David Ramsey. Plans for the publication of this running commentary on the Library's historical resources are under discussion by McD's admirers. The *Fugitive Leaves* merit wider distribution and more substantial format than their initial broadcast afforded.

There are many sidelights of McD's life that would require the collaboration of many friends to illumine fully. Some friends can attest to his musical interests including talent as an accomplished pianist, years of observation of the world of grand opera, and an early venture of putting the words of the Odes of Horace to music and singing them in the language in which they were written.

Additional insights into the complex gifts and personality of the man to whom we give testimony are revealed by two volumes and a folder of tributes presented to him on the occasion of his retirement in 1973.[2] Excerpts from the letters were published in the October 1975 issue of the *Transactions & Studies.*

A fitting memorial to McD would be to take to heart one of his major concerns for

[1]A complete listing of articles in the *Fugitive Leaves* is found in "A Bibliographic Salute to W. B. McDaniel, 2d" by Lisabeth M. Holloway, cited in the text above.

the better use of language as expressed in the *Bulletin of the Medical Library Association* 32:57-72 (January 1944), p. 71:

> So long as scientists subscribe to the easy doctrine that science is a world apart from the world of general culture, so long will there remain no hope of improvement in the literary quality of medical literature (or of any literature). One of the saddest features of our times is the failure to grasp the concept of language as the midwife of thought.
>
> Laws are made and maintained by the thoughtful in a civilized attempt to rise above chaos. The laws of language have such a purpose. Failure to recognize this purpose, and the justification of disregard for the laws of language on the specious grounds of expediency and lack of censure, lead ultimately and logically to a delightful state of anarchy in which everyone writes for himself alone, because his colleagues are far too busy being "utilitarian" in their way to bother with studying other systems of utilitarianism. It will be a fine day, indeed, when the wheel turns once again and we realize how cheaply we have held our greatest natural gift, the gift of language, through which we share our hopes and desires, and our fractions of knowledge.

In closing, I share with you a personal note from the man whose greatness I have attempted to catch in these remarks. McD wrote to me in October of 1956, "I cannot resist the hope that, in the end, reason (my version of it) will sweetly prevail. If it doesn't it will not be for the first time, nor for the first time that I shall be quietly faithful to it."

[2]Friends will admire two recent articles: "Walton Brooks McDaniel 2d: An Appreciation" by Fred B. Rogers, M.D., in the July 1975 issue of *Philadelphia Medicine* 71(7):292-293, and "W. B. McDaniel, 2d (1897-1975)" by Whitfield J. Bell, Jr., in *Bulletin of the History of Medicine* 49(3):429-431, (Fall 1975).

This memoir was prepared and published at the request of the Council of the College of Physicians of Philadelphia and read before the Section on Medical History of the College of Physicians of Philadelphia, January 21, 1976.

Memoir of Ward D. O'Sullivan (1917-1975)

By DONALD C. GEIST, M.D.

Ward D. O'Sullivan came to Philadelphia in 1956 as director of the Department of Surgery at Misericordia Hospital, now the Misericordia Division of the Mercy Catholic Medical Center. His primary task was the organization and development of a surgical residency, a task he promptly and efficiently accomplished.

Dr. O'Sullivan was born in New York City on January 8, 1917. His early education was received at the Regis High School in New York City. He then attended Fordham University, graduating *cum laude* with a Bachelor of Arts degree in 1938. His medical education was secured at Cornell University Medical School, where he graduated in 1942.

After an internship at the New York Hospital in 1942, he undertook his residency in surgery at the same institution, first as assistant resident surgeon, then as first resident surgeon and in 1949 as chief resident surgeon. World War II interrupted these years and necessitated his entry into military duty with the U.S. Army Medical Corps, first as lieutenant and shortly as captain. As always, his work bore the stamp of excellence. Although this period of his life was scarcely ever mentioned by him, he was awarded the Bronze Star with Oak Leaf Cluster, the Purple Heart and the Combat Medic Badge.

In 1950 he began his academic teaching career as instructor in surgery at Cornell University Medical College. During the ensuing years, he advanced to assistant professor of clinical surgery and later to associate professor of clinical surgery. During this same time Dr. O'Sullivan was assistant attending surgeon and later associate attending surgeon at the New York Hospital. At this juncture he chose to start his work in Philadelphia.

As director of surgery at Misericordia Hospital in Philadelphia, he spent his first efforts in the organization and development of its surgical residency. At the same time he also served as director of medical education, chairman of the Research Committee, and editor of the hospital's medical bulletin. Appointed professor of surgery at Jefferson Medical College in 1957, he was responsible for the organizing and arranging of an affiliation between the departments of surgery of the two institutions. As part of this program, Jefferson medical students, during their third and fourth years, were assigned to Misericordia Hospital as clinical clerks. He instituted a surgical research laboratory at the hospital, an important adjunct to the education of students, interns and residents as well as an opportunity for staff members. The surgical residency achieved outstanding success in quality and effectiveness.

His accomplishments as a surgeon began long before his arrival at Misericordia Hospital and continued to be very evident during his stay there. He was an excellent operator, competent in diagnosis and skilled in pre- and post-operative care. An excellent teacher, Ward possessed great patience, was enthusiastic and encouraging in his instruction and effective by his own personal example. He easily earned the affection and admiration of interns, residents, and staff members. His devotion to teaching was real.

His own special interests were in cardiovascular surgery and portal hypertension. Thirty-two papers were published by him. A collaborator with Charles R. Child, III, in their important monograph on hepatic circulation and portal hypertension, Dr. O'Sullivan was one of the first surgeons to advocate emergency portacaval shunts. In 1958 Fordham University gave him the Encaenia Award, and in 1962 the Fordham University Alumni Association presented him with its Achievement Award in Medicine. A diplomate of the American Board of Surgery, he was a Fellow of the American College of Surgeons, the Society of University Surgeons, the Philadelphia

Academy of Surgery, the College of Physicians of Philadelphia, the New York Academy of Medicine and other professional organizations.

In 1964 Ward accepted an appointment as director of surgery at St. Francis Hospital, Bronx, N.Y., where his usual sterling efforts continued until 1967 when the authorities decided to close the hospital. Returning to Misericordia Hospital, he played an important role in the combination of Misericordia and Fitzgerald Mercy Hospitals in 1969 to form the Mercy Catholic Medical Center. Again he arranged a complete affiliation between Jefferson Medical College and Mercy Catholic Medical Center, including medicine, obstetrics, gynecology and pediatrics as well as surgery. In addition he became the chairman of the Department of Surgery at the center.

To know Ward O'Sullivan personally was equally as rewarding as to be his colleague in surgery. He was a calm, gentle man with a pleasant, likeable personality. Dedicated to his work as a surgeon, he was particularly devoted to the teaching and education of young surgeons. He was a happy husband and father. His wife, Katherine, their daughters, Kathleen, Ann Beth, and Maureen, their son, Daniel C., and nine grandchildren shared his love and affection and were a great joy in his life. His sudden death on August 12, 1975, was a tragic loss and brought them much sorrow. Many others will keenly feel his loss.

This memoir was prepared and published at the request of the Council of the College of Physicians of Philadelphia.

Memoir of Merritt H. Stiles (1899-1975)

WILLIAM U. McCLENAHAN, M.D.

Merritt H. Stiles died on June 29, 1975, at 76 years of age from an apparent heart attack while jogging on his favorite jogging path at Priest Lake, Idaho.

He is survived by his wife, Montana Thomas, their two sons Henry Edward and Gardner Stuart, and his daughter, Mary Borie. He was practicing internal medicine at the time of his death and active in many extraprofessional activities, especially skiing.

Merritt was born in Stiles, North Dakota. From high school in Tacoma he entered the University of Washington. His college course was temporarily interrupted by duty with the University Ambulance Service in Italy and France.

He entered the University of Pennsylvania School of Medicine, graduated in the Class of 1924, and was president of his medical alumni class at the time of his death. Internship was divided between the Pennsylvania, Germantown, and Chestnut Hill Hospitals. From 1928 to 1942 he was on the active staff of the Chestnut Hill Hospital.

In 1942, he entered the United States Army Medical Corps, serving as the chief of the medical service at Baxter General Hospital, Spokane, Washington, and then as Commanding Officer of the 118th General Hospital until the time of his discharge in 1946 with the rank of lieutenant colonel.

From 1946 until his death he practiced medicine in Spokane, Washington.

He acted as a consultant to the U.S. Air Force Hospital and to the United States Veteran's Administration Hospital during that time. He had published more than 52 medical articles on subjects ranging from bacteriology, hepatology, and hematology to cardiology and sports medicine. In 1971, he coauthored a book, *Ski At Any Age,* with Dr. Robert D. O'Malley. As a result of this and other publications, the United States Ski Writer's Association awarded him the Golden Quill Award.

Merritt became a Fellow in the American College of Physicians in 1941. He was president of the Spokane Society of Internal Medicine and the Washington Society of Internal Medicine. His interest in heart disease led him to the position of chairman of the board of the Northeastern Chapter of the Washington State Heart Association. He subsequently became president of the Washington State Heart Association in 1954-56 and a lifetime trustee. He went on to become director of the American Heart Association in 1955-68, vice-president of the American Heart Association, 1959-62, and chairman of the Council of Clinical Cardiology in 1963-65. In the course of these activities, he was awarded the Washington State Heart Association Distinguished Service Award and also the American Heart Association Golden Heart Award.

In 1955, Merritt found his sons involved in ski racing. Rather than stand by and watch them, he decided to learn to ski himself. He not only became a proficient skier, but also actively worked in the Spokane Ski Racing Association and Pacific Northwest Ski Association, and ultimately became president of the United States Ski Association and was awarded the Blegen Award. His involvement with the U.S. Ski Association caused him to also become a director of the United States Olympic Committee, who awarded him the Golden Torch Award. These various activities led to his election in 1975 to the National Ski Hall of Fame.

Because of his involvement in the American College of Sports Medicine he was awarded a citation.

There is probably no one who has done more to demonstrate the value of fitness as a way of life and as a means of preserving an optimum of youthful vigor. There is no one who has better demonstrated the fact that taking an active participating interest keeps the mind bright and alert. Merritt finished

his allotted time on this earth, but he did not grow old.

The College is proud of his record and offers its condolence to his family.

This memoir was prepared and published at the request of the Council of the College of Physicians of Philadelphia.

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The College of Physicians of Philadelphia

Relevance of Medical Research to Patient Care*

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It is a pleasure to return to Philadelphia, which is not only my birthplace, but also my medical home. When I was in grammar school, I used to peruse Mother's medical books. As the years progressed, I was the recipient of much good advice from Mother, which, like my children, I didn't always have the wisdom to heed. During medical school, internship, and residency in Philadelphia, I had the honor and privilege to learn from a number of fine physicians: O.H. Perry Pepper, Francis Wood, Garfield Duncan, and many others. Edward McGehee, through his enthusiasm, was in large measure responsible for my first year in research at St. Bartholomew's Hospital in London.

Robert Abbe, who endowed this lectureship, was a radiant, warm person and a dedicated physician. He was a pioneer in surgical research and was one of the first to use radium in the treatment of cancer. The intractable anemia which he developed four years before his death was probably secondary to his radium exposure and was treated by transfusion, in its experimental phase. Dr. Abbe's endowment of the Rush Custodianship and of this lectureship enables the members of the College to reflect upon the achievements of some of the early leaders in medical research and to contemplate the state of biomedical research here this evening.

American society of recent years has expressed a great concern for relevance in all facets of life. We have emerged from the turbulent sixties when the rebellious young people searched for and demanded relevance in their education, in their existence, in our national defense policies, and in personal relationships. Perhaps it comes as no surprise that, having brought tremendous pressure to bear upon the Federal government to end the Vietnam War, the power of the electorate would exert new pressures to influence that area which intimately affects each of our 220 million citizens: HEALTH.

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about the entire health field — about changes in physicians' traditional roles of "caring" and "curing," concern that those diseases which are the scourges of the twentieth century be studied in such depth that they could be eliminated — head a long list of needs. These needs are expressed through pressures brought to bear on private health agencies and foundations, and at all levels of government, for study of categorical disease areas.

Because health has increased as a national concern to the point where it takes a sizeable amount of our national budget, we in the medical profession are now open to the sort of scrutiny that can be extraordinarily uncomfortable. Choices, which were once made at the bedside, are now made openly, often with all the fullness of disclosure that the Fourth Estate can summon. The atmosphere in which Edward Jenner was able to test his hypothesis about the relationship between smallpox and cowpox would not be recognizeable in our large research centers. Peer review, committees on human experimentation, interest about freedom of information and about privacy of the individual have become necessary accouterments imposed by our society in the second half of the twentieth century.

I would like to discuss here three issues which we face as science administrators:

1. The public is anxious that treatments or cures be found for the dread diseases, and this public lobbies for greater effort and funds to be applied to this end.

2. Biomedical scientists are convinced that basic research ultimately will produce the understanding of biologic mechanisms which facilitate the cure of dread disease.

3. The National Institutes of Health (Figure 1), the Federal agency assigned lead responsibility for biomedical research, is responsive to both of these pressures. NIH is committed to encouragement of fundamental studies to expand knowledge in the biomedical sciences so that it may be applied in the clinical sphere.

The major investment which our country has made in health has focussed attention of the country upon what has been termed "the health industry." Figure 2 illustrates the magnitude of the total financial involvement in the United States and that of the Federal Government in health and in health research and development. In 1974, total health costs in the United States were estimated to be $105.8 billion, a threefold rise in this decade from 1964 when $35.9 billion was spent on health. Health research and development costs represented four percent of this sum in 1974, the smallest of the items in the health budget. As shown in Figure 3, 65 percent of the health research and development funds came from the Federal government. Industry's expenditures for health research and development make up most of the balance. Academia, although a negligible source of funds, performs the greatest percentage — 36 percent — of research and development activity.

The National Institutes of Health are a keystone in the nation's health research and development. With obligations in 1974 of $1.7 billion, the NIH supported 31 percent of health research and development in the United States. This was ten percent of all Federally supported research and development in fiscal year 1974, and included 46 percent of Federally supported research and development in academic institutions.

The National Institutes of Health have grown dramatically since the Cancer Act of 1937, and their interests reflect the health

FIG. 1. The campus of the National Institutes of Health, Bethesda, Maryland.

concerns of the nation as well as the concerns of biomedical investigators in this field.

Since the public's concern about its health runs high, and because such a large share of the research budget comes from Federal funds, the Congress, which has been given budgetary authority by the Constitution, has exercised increasingly its prerogative to suggest or to mandate areas for initiatives in biomedical research. In 1965, Senator Bartlett of Alaska expressed concern that decisions affecting our citizens' lives were not being made by elected officials but by "faceless technocrats in long white goats."

Biomedical scientists have considered that government today is too complicated for political leaders to be able to know and to understand all the scientific data necessary for health policy decisions. On the other hand, policymakers have responded to pressures from concerned laymen for increased research efforts in specified disease categories. Legislation enacted by Congress, usually with strong administration support, has ear-marked increased funds for research in various categorical areas such as sickle cell anemia, Cooley's anemia, cystic fibrosis, cancer, heart and lung diseases. Such research in designated areas has been called "directed," "targeted," or "mission-oriented," terms which have had a measure of opprobrium attached to them in research circles.

The distress manifest among investigators about "directed" research arises from their conviction that the increase in knowledge resulting from basic research will make the greatest contribution to an understanding of the mechanisms of biological function in health and disease, which in turn will result in clinical advances. A climate of acceptance

FIG. 2. Health R & D as a proportion of total health cost.

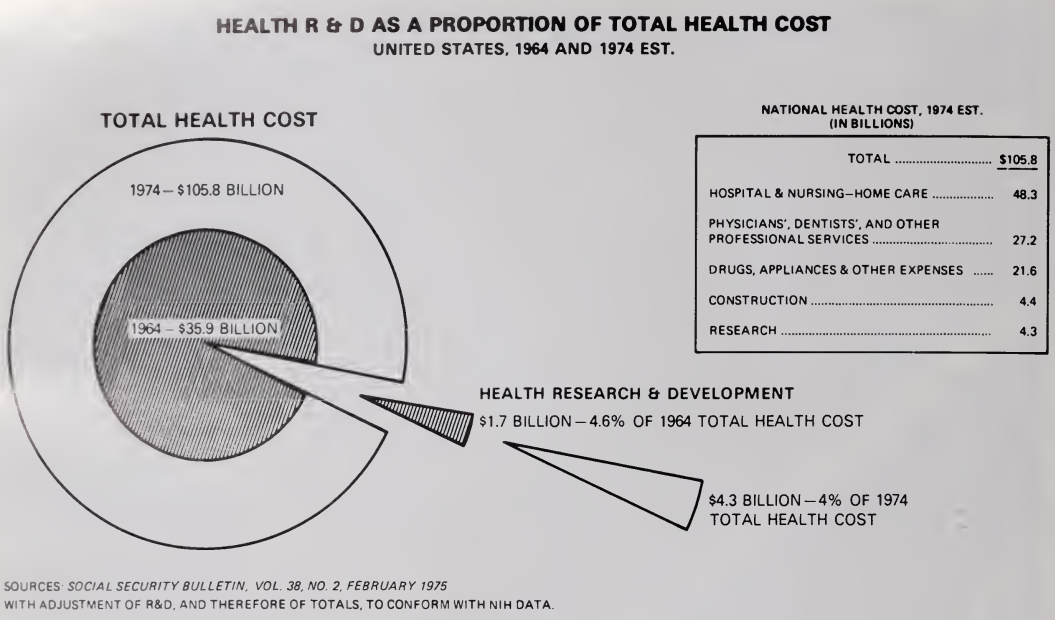
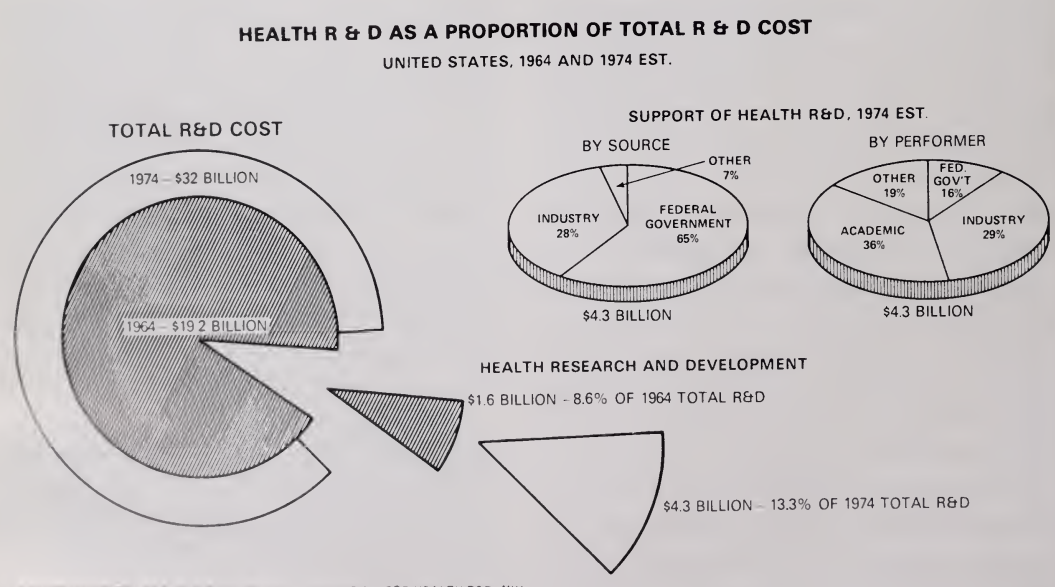


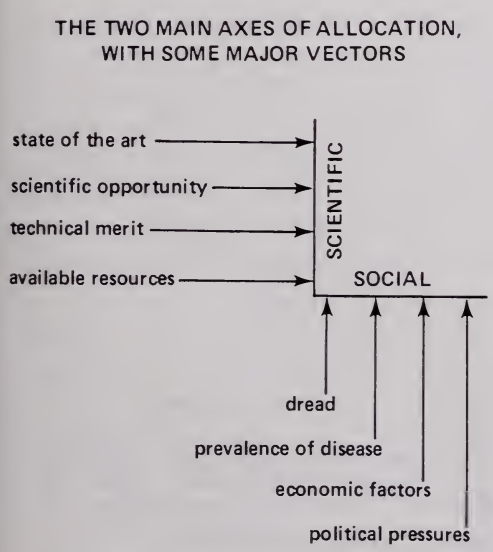
FIG. 3. Health R & D as a proportion of total R & D cost.



and support of independent investigation existed during the halycon days when Senator Lister Hill spearheaded legislation which frequently allocated more funds than NIH asked for, and when the public was enchanted by the prospect of dramatic scientific progress. Now, the current tensions and frustrations are heightened by efforts to channel research activities and to limit training of new investigators. Investigators reiterate their bias that an approach like the push to put a man on the moon cannot be used for uncharted areas in biomedical research. This bias springs from the fact that basic understanding of mechanisms of many diseases has not reached the level for implementation and for development.

The diagram of the two main axes of allocation simplistically depicts the sorts of pressure that are brought to bear upon resource allocations (Figure 4).

FIG. 4. Factors influencing the allocation of resources in health research.



In 1966, President Johnson noted: "We must make sure that no life-saving discovery is locked up in the laboratory." Currently, the body politic has requested urgently that no research finding that possibly can be applied in the service of man go unapplied. The juxtaposition of the investigator, described by Robert Revelle in his AAAS presidential address[1] as "publically modest, introverted, relatively inarticulate, and seeking certainty rather than risk," and the politician, whom he depicts as "publically egotistical, gregarious, garrulous, and (possessed of) a strong gambling instinct," poses the dilemma in which medical research functions now. Anxious to pursue the leads of his field, uninterrupted by the cares of the marketplace, the biomedical scientist must convince the lay people of the importance of his work in a manner that outlines details of the needs, patterns, and direction of research, so that it is comprehensible.

Thus, in response to the desires of the people, voiced in very down-to-earth terms by the Congress and by the administration, scientists have begun to look for means to transmit more clearly not only the specific productivity and applicability of their research, but also a more lucid understanding of the process of science. Formerly, scientists frequently considered that lay people could not comprehend the methodology and interpretation of their research and they were not inclined to clarify its complexities. In the past ten years, there has been an increasing desire, born of necessity, among scientists and science administrators, to communicate with the public about science in ways that are clear and lucid.

When called on to defend the need for "basic research," biomedical scientists have found a paucity of objective evidence to support their conviction that basic research will yield answers to clinical problems more efficaciously than will "targeted research."

[illegible] for critical "research about [illegible] has become more evident. There are [illegible] questions to be asked: Are investigators more productive of results serving the general welfare if they are "directed"? Or is the concept, prevalent among independent investigators, that if the natural curiosity and bent of the scientist to explore uncharted courses is followed carefully new and valuable data and understanding will result more readily, a valid one? The wherewithal to conduct research is proffered largely by laymen with a concern about the ravages of disease and with the need for the rapid development of means to alleviate people's suffering. Many initiatives have been taken by pressure groups to request legislation for programs in categorical disease.

Initially, biomedical scientists were unprepared with data to validate their belief that funding of qualified investigators working in their own areas of expertise would yield greater progress than support of targeted research. Now, to prove their point, scientists are beginning to analyze the history of research to relate it to significant progress in the clinical field.

The 1966 position of the Johnson Administration stated that "Presidents ...need to show more interest in what the specific results of research are in their lifetime and in their administrations ....A great deal of basic research has been done ...but the time has come to zero in on the targets by trying to get our knowledge fully applied." This position was solidified by a preliminary report of a Department of Defense study, *Project Hindsight*. This was a retrospective analysis of twenty important military weapons by a team of scientists and engineers who concluded that: (1) the contributions of university research were minimal; (2) scientists contributed more effectively when their effort was "mission-oriented"; and (3) the lag between initial discovery and final application was shortest when the scientist worked in areas "targeted" by his sponsor.

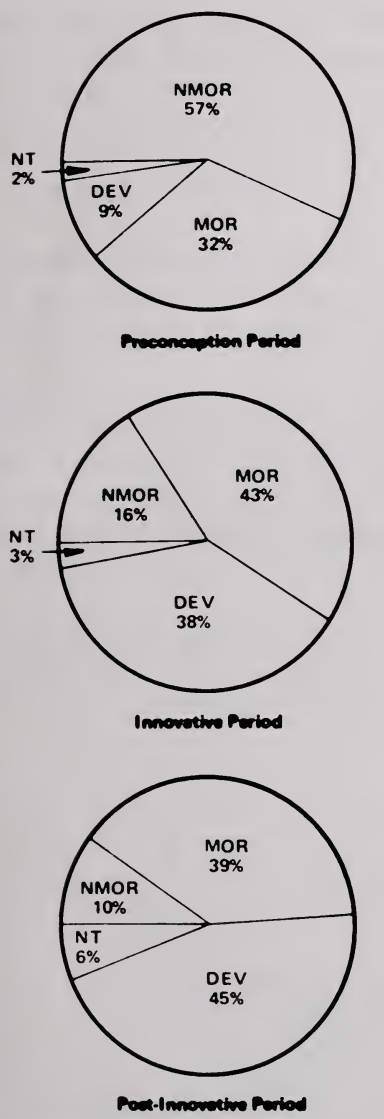
The application of the findings of this study of development of weapons as a principal for research in general was antithetical to the convictions of the biomedical community. Solid evidence from the annals of biomedical science was needed to counter the impact which the interim Department of Defense report had upon Congress and upon the Office of Management and Budget. Initially, many of the basic scientists were able to counter only with anecdotal examples about the background of clinical advances, which left the politicians unconvinced.

Two landmarks stand out in this effort to prove the place of basic research in the search for clinical progress. The first is a study prepared for the National Science Foundation.[2] The second is a study by two physicians, Julius Comroe and Robert Dripps.[3] Both of these ventures are extraordinarily valuable because they attempt to study in depth the process of *research discovery* in an *objective*, rather than in an anecdotal, way.

The NSF study was motivated by the hope that a better understanding of the process by which innovation occurs and proceeds would offer guidelines for generating socially desirable innovations. Innovation, as defined by this study, is neither scientific discovery nor invention, but a complex series of activities: beginning at the "first conception," proceeding through a succession of interwoven steps of research, and ending at the "first realization" when an industrially successful product is adopted in the marketplace. Ten cases were analyzed, including two medical cases: the heart pacemaker and oral contraceptives. The recorded literature was reviewed.

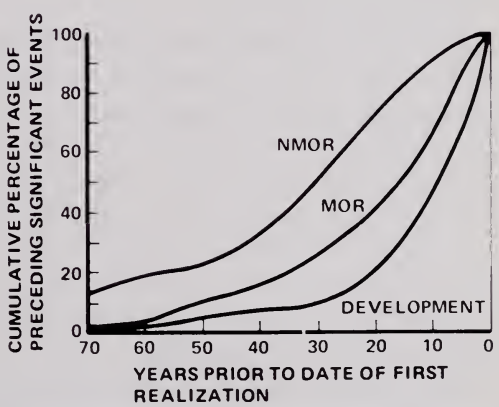
Twenty-one factors of probable importance to the direction and rate of the innovative process were selected and rated as

FIG. 5. Analysis of R & D during the stages of an innovation. (Reprinted from Reference 2 with permission of the National Science Foundation.)



to degree of importance to each of the decisive events of the ten innovations. The duration of the innovative process averaged 19 years for the ten. The pacemaker and oral contraceptives took 32 years and 9 years, respectively. Figure 5 shows an interesting trend in relation to "non-mission-oriented" research, which has more than half of the "significant events" in the preconception period, but drops to a relatively less significant role during the innovative and post-innovative periods. Figure 6 indicates that cumulatively, enroute to realization of the innovation, there is a greater contribution from "non-mission-oriented" research in terms of "significant events."

FIG. 6. Cumulative analysis of R & D leading to an innovation. (Reprinted from Reference 2 with permission of the National Science Foundation.)



The first conception of the idea of periodic stimulation of the heart was offered in 1928 by A.S. Hyman, who applied for a patent on a pacemaker in 1930. Thirty-two years elapsed from that conceptual year to realization in 1960. The significant background events date back to the eighteenth century. These were random studies planned without any concept of the final clinical event.

Comroe and Dripps[3,4] planned their four-year study to delineate the relative value of "targeted" and "non-targeted" medical

They wanted to show why, how, and when the research responsible for lifesaving medical advances had been done. The knowledge required for the great advances since the early 1940s in the diagnosis, treatment, and prevention of cardiovascular-pulmonary diseases was selected for analysis. Such objective information is needed desperately to answer the questions raised in national debate and in expert testimony before Congress about the relative value of "targeted" and "non-targeted" research.

In the dispassionate manner which we associate with this pair of investigators, Comroe and Dripps asked physicians, connected in no other way with the study, to list what they considered the most important clinical advances since 1945 that were directly responsible for diagnosing, preventing, or curing cardiovascular or pulmonary disease, stopping its progression, decreasing suffering, or prolonging useful life.

The "top ten" advances that were studied were: open heart surgery, cardiac resuscitation and pacemakers, intensive care units, chemotherapy of tuberculosis and of acute rheumatic fever, blood vessel surgery, management of coronary artery disease, oral diuretics (for treatment of high blood pressure and of congestive heart failure), new diagnostic tests, treatment of hypertension, and prevention of poliomyelitis.

More than four thousand scientific articles related to the top ten advances were screened and 529 of these articles were selected as essential to these advances. These 529 articles were the basis of critical analysis. Of these 529 key articles, 41 percent reported research that, *at the time of publication,* was unrelated to the later clinical advance.

Research was defined as **basic** when the investigator, in addition to observing, describing, and measuring, attempted to determine the mechanisms responsible for the observed effects, and thus could use healthy or sick man, animals, tissues, cells, or subcellular components. Bearing in mind these criteria, 62 percent of the 529 articles described basic research — research whose goal was to determine mechanisms by which living organisms (including man) function or mechanisms by which drugs act. Clinical investigations without an interest in basic mechanisms were reported in 21 percent of the 529 key articles, and 14 percent were concerned with development of new apparatus, techniques, operations or procedures.

Two-thirds of the key research was done in medical schools or colleges (and their affiliated hospitals) or in other divisions of universities.

In their analysis of open heart surgery, Comroe and Dripps had three objectives: first, to determine whether the cardiac surgeon took a "giant leap to the summit of the mountain," or whether he "walked up to the top" (Figure 7); second, to find who

FIG. 7. Or did he climb the steps up the back of the mountain? (Reprinted from Reference 4 with permission of the American Heart Association, Inc.)

facilitated the walk, and why, and whether cardiac surgery was their target; third, and most important for those of us concerned with support of biomedical research today, to tell the public, and especially the makers of public policy, how he got there.

Would the results of the Comroe/Dripps study be what the public had heard already? The average person was aware of the spectacular nature of open heart surgery, because of the flamboyant reports in the press. The news media's flair for the dramatic presented the news of this latest medicalsurgical achievement as if it had sprung fullgrown like Botticelli's Venus. The penchant for reserve and understatement of the medical investigator was bound to be frustrated by such publicity.

Before open heart surgery could become a routinely successful procedure, an absolute requirement was the development of the pump oxygenator, which was developed by our dear member, Jack Gibbon. For fifteen years, this development was a product of "mission-oriented" research, and then, for the last few years, one of engineering and development. The background research that had to precede such a development was not "mission-oriented." It covered a wide spectrum of knowledge: anti-coagulation, blood groups, blood typing, transfusion, blood preservation, red cell physiology, blood gas diffusion, development of plastics, and more.

Further than the pump oxygenator, knowledge was required to enable the cardiac surgeon to open the thorax, to stop the heart, to restart the heart, and to care for the patient postoperatively. Twenty-five bodies of knowledge were identified whose development was essential to permit this one clinical advance.

One hundred fifty essential bodies of knowledge were identified for all ten clinical advances. However, under each heading there is a long history of scientific progress from the earliest concept to full and effective use, most within the realm of "basic" research, and very few "mission-oriented."

In my own field of nephrology, we have not achieved the "high technology" to enable us to cure or to prevent end stage renal disease.[5] The process of development is visible. In 1913, Abel, Rowntree and Turner[6] reported on "The Removal of Diffusable Substances from the Circulating Blood by Means of Dialysis." Thirty years elapsed before Wilhelm Kolff's development of the first clinical hemodialyzer was applied during World War II in Holland. In 1947, the first successful clinical dialyses in America were performed at the Peter Bent Brigham Hospital. Development of techniques and knowledge necessary for treating renal patients by this new "machine" included: anticoagulation; invention of cellophane; flame photometry for electrolyte determinations; plastics with minimal tissue reactivity that could be made into indwelling vessel cannulae and that would not harm blood cells or platelets; knowledge of calcium, phosphorus, Vitamin D and bone metabolism; understanding of erythropoietin and red cell survival, and many more.

The passage into law of the End Stage Renal Disease amendment made treatment by dialysis and/or transplantation available for almost ninety percent of patients suffering from end stage kidney disease. Government support of this type of catastrophic illness has alerted Congress and the Office of Management and Budget to the high cost of treatment — over a third of a billion dollars were spent in the past year for this program. In addition to the incredible economic costs, there are very high human costs. As with all symptomatic treatments, hemodialysis improves but does not alleviate completely the ravages of the disease and its consequent personal and psychologic trauma.

Transplantation, when successful, is more rewarding treatment, since it can return patients closer to normal existence.

The great human and economic costs make very evident the need to search for a means to prevent or to arrest the diseases responsible for end stage renal disease. The parallel with the types of treatment for polio, once so familiar to us all — leg braces, iron lungs, and protracted physiotherapy — is obvious for hemodialyzers, potent immunosuppressive drugs, and all the medications necessary for treatment of the complications of chronic renal disease. The need for a "high technology," considered by Lewis Thomas [7] to be that technology coming "...as a result of a genuine understanding of disease mechanisms and (which) when it becomes available... is relatively inexpensive, relatively simple, and relatively easy to deliver," is especially obvious in renal disease.

In order to comprehend the mechanisms of renal disease responsible for the uremic syndrome, a great deal of basic research in immunology, genetics, virology, renal physiology, and other sciences will be necessary. There will need to be a confluence of knowledge, much of which may not, at its inception, have evident applicability to the specific diseases under consideration.

The evidence is clearer to support the conviction that significant advances in understanding the function of living organisms and resultant contributions to clinical advances come largely from investigator-initiated research. "Targeted research" is useful once the fundamental knowledge is available. Once an innovative concept has been put forth against a background of a great deal of "non-mission-oriented" research, "mission-oriented" research may be increasingly significant. This occurs relatively late in the search process.

How do we, at NIH, try to steer the hazardous course between Scylla and Charybdis? The public is concerned that investigator-initiated research is not yielding the rapid returns the public desires in prevention and cure of disease. Opposing this view, investigators believe "mission-oriented research" without key "basic research" is unlikely ever to yield "high technologies," no matter how great the outpouring of "targeted funds."

We have felt a need to bring together the skills of the investigator and the research problems posed by our people. In the knowledge that biomedical scientists have been more productive in unravelling the intricacies of the organism's function when self-motivated, we have looked for means to focus attention of investigators upon key investigative and therapeutic problems. Our hope has been that investigators will be intrigued by some of these new areas.

The most fruitful approach seems to be to stimulate the independent investigator's interests in some areas to which his expertise might be applied, rather than to try to "direct" his energies into new fields in which he has no interest. An awareness of significant gap areas in research might arouse the curiosity of those with talents in special disciplines and methodologies and spur them to explore, or to encourage their younger colleagues to explore, a new field.

Many means to stimulate new interests have been tried, such as workshops, seminars, evaluation studies of entire disciplines; in more narrowly defined fields, requests for grant applications or for contract proposals have been issued.

Communication between laboratory scientists and clinicians has a potential for producing totally new approaches to clinical problems. For example, we have planned cross-disciplinary conferences to bring together physical chemists, biochemists, renal physiologists, nephrologists, and urologists to discuss urolithiasis. Urolithiasis has a

considerable morbidity, but few new therapeutic or preventive approaches have been made.

We have held seminars on benign prostatic hyperplasia, urolithiasis, anemia of uremia, prevention of kidney and urinary tract disease, and adequacy of dialysis, to name a few. We have been rewarded by a physical chemist applying his expertise to the renal stone problem; by the micropuncturist turning his interest to divalent ions; and by the endocrinologist delving into problems of the aging male and prostatic hypertrophy.

Evaluation of Research Needs in Nephrology and Urology,[8] a two-year effort involving participation of over ninety peers in the fields, was planned as a broad scale approach to the fields of nephrology and urology by our institute in order to delineate current research and the gaps in research. Our hope in initiating this evaluation was that valid data springing from this detailed study of research might "inner-direct" the peers in the field to new research about "gaps" which they found.

Research currently supported both by the Federal government and by other nongovernmental funds in these two fields is being surveyed in depth against the rich background of expertise in basic and clinical research of the involved nephrologists end urologists. The charge to the committees includes the need to identify areas in both basic and applied research in order to: (1) assess the STATE OF THE ART IN RESEARCH in the respective and interrelated fields of nephrology and urology; (2) delineate the NEEDS FOR FUTURE BASIC, CLINICAL, AND APPLIED RESEARCH in nephrology and urology; (3) evaluate the FEASIBILITY OF CARRYING OUT THE RESEARCH in the areas considered significant by scientists active in the field and the TECHNICAL AND METHODOLOGIC ADVANCES NECESSARY to implement the required work; (4) consider priorities in approach to the DIFFERENT RECOMMENDED AREAS BASED ON: (A) need for ELUCIDATION OF BASIC MECHANISMS OF DISEASE in order to devise RATIONAL TREATMENT, (B) clinical consideration of MORBIDITY AND MORTALITY, (C) EPIDEMIOLOGIC DATA, and (D) FISCAL CONSIDERATIONS; and (5) produce a DETAILED WORKING PAPER resulting from the study to be distributed to interested and involved persons throughout both the scientific and lay communities of the public and private sectors.

Such a study has involved significant crossdisciplinary collaboration and intellectual stimulation of the members of the coordinating committee and of the eleven specialty committees. We felt that investigators made aware of "gap areas" in our knowledge of disease might have their curiosity aroused in new areas. They can channel expertise in both knowledge and methodology into new directions, of their own volition, in response to the urge to satisfy their curiosity. One of the unanticipated "spin-offs" of our study has been the development of an increasing awareness among the investigators of the urgent need to communicate the results of their investigations. They found that an understanding of the potential for research, in terms that can be comprehended, is needed by scientists outside the narrow fields of the research subspecialties, and by laymen.

The National Institutes of Health, as the Federal agency committed to health research, has a primary involvement with the diseases which afflict our society and with unravelling mechanisms of these diseases. The Institutes have a strong commitment to basic research, but endeavor to be as responsive as possible to the health concerns of the people, voiced frequently through their elected officials.

[illegible] possibilities have been taken by [illegible] of our eleven institutes in areas [illegible] familiar to the basic scientist, which contribute in different fashion to the understanding of disease.

In summary, (1) basic research has been and will be of prime importance. We can see stretched out over centuries the contributions of hundreds of men and women full of curiosity about the mechanisms by which living organisms function, of investigators who wanted to satisfy a need to control, predict, and explain a phenomenon they observed. We are aware that these contributions are made most frequently by careful, painstaking efforts to explain natural phenomena. Often years are required for the synthesis of many small discoveries to produce an explanation for a larger entity. (2) We, as biomedical scientists, must communicate to lay people. We need to explain the workings of science so that the public will learn of the arduous route, and of the incremental growth of knowledge before major achievements are realized. Rather than dramatize the brilliance of a clinical advance as a "breakthrough," we should help the public to contemplate the long course of achievements of those whose names may have been forgotten in the flurry of excitement over some "sudden breakthrough." (3) As science administrators, we must maintain a climate for research that facilitates excellence in independent investigation, as well as attempt to encourage new research initiatives into categorical clinical problems.

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The Men on the Walls—II

Charles Caldwell, M.D.

BY JOHN L. McCLENAHAN, M.D.*

When writing his memoirs, Charles Caldwell, M.D., remembered that as a boy, growing up in the woods, he excelled in running, jumping, and marksmanship. In school his diversions were chess and fencing. As a physician, practicing in Philadelphia and parishes to the west, it was his pleasure — his "mandate ... to retaliate and demolish." The words were his own. Stubborn, talented, contentious, ardently devoted to lost causes, he may have been the only man ever to lecture the citizens of Lexington, Kentucky, on the evils of horse racing.

He was born of Irish stock in the wilderness of North Carolina on May 14, 1772, the last of ten children. From the age of fourteen he supported himself and, virtually self-educated, read voraciously and took what Latin and Greek he could from teachers he despised. When he was eighteen, he accepted his *second* appointment as headmaster in a rural school. He had already begun to shape his style of prose and declamation — pugnacious, orotund; the trumpet of Ishmael.

It was his father's hope that he would study for the Presbyterian ministry but he abandoned such a course, beset by private heresies. He was drawn to the law, a vocation for which he was superlatively qualified, but he put aside the idea at his father's request. For a time he considered a career in the military before he settled on medicine or, more accurately, the philosophy of medicine. At the end of his life, he confessed that his choice of work had been unwise and had been imposed on him "by influence which I held sacred and could not, therefore, with propriety, resist."

In 1796 he graduated from the medical school of the University of Pennsylvania. In the same year he was elected a member of the American Philosophical Society; he was also, for eight years, a Fellow of the College of Physicians of Philadelphia. His portrait, a fine one by Thomas Sully, now hangs in Hutchinson Hall. We see an erect, handsome figure perhaps forty years of age against a dark olive background. He wears a black jacket with a white ruff at the throat. The brow is high, the chin confident, the nose straight, the eyes dark and appraising. His mouth is fixed in a restrained smile. Calomel — mercurial gingivitis — had taken his teeth, but the artist was kind.

Caldwell lived in Philadelphia until 1819, practicing, teaching, and writing. His interest was the whole man and all that affected him: comets, the moulting and migration of birds, epizootic worms, optimism, and febrile miasms. Unbelievably active, he perpetually took on new assignments "within the hour." He translated a text of physiology, written in "German Latin," into English, the first of such in America. After serving under Washington as a surgeon in the Whisky Rebellion of 1794, he delivered what was probably the first course of lectures in medical jurisprudence in America. He attended scores of medical meetings — "almost every evening I closed the debate." He edited the *Port Folio,* the most influential literary journal of the day. He married once in Philadelphia and once in Louisville, though he does not

*39 East Chestnut Hill Avenue, Philadelphia, Pennsylvania 19118.

[illegible] wife in his autobiography. He [illegible] Thomas, who graduated from Harvard and became a physician; perhaps he had a daughter, but no one is sure. His great love was phrenology. Generations of first year medical students take comfort from his contempt for chemistry, "that speculative science." He wrote sensibly about prison reform, and his views on quarantine, far ahead of his time, won him a Boylston Prize. His highest academic appointment in Philadelphia was the Chair of Geology and the Philosophy of Natural History at the University of Pennsylvania.

Dr. Caldwell is remembered for his turbulent relationship with Benjamin Rush, for his speculations and insights into the cause of yellow fever, some of them close to the truth, as the principal founder of two medical schools, and as the author of an extraordinary autobiography.

His narrative, written when he was an old man, is so fascinating a treasure-trove of prejudice and information that the author can be forgiven for his tattle, occasional fabrication, and disposition, whenever possible, to flog a corpse. His poisoned tributes are models of the art: "These remarks, respecting Dr. Coxe, I have not made from any abstract disposition to speak disrespectfully of him (for I regard him as a very worthy and highly respectful man)." Page after page, on the other hand, sparkle with vivid, Boswellian sketches of the notables of his time: Wistar, Shippen, Rush, Sir Astley Cooper, George Washington, and the unfortunate Queen Caroline.

Perhaps its most interesting passages deal with the yellow fever epidemic that struck Philadelphia in 1793, within a year of his arrival from North Carolina. He had finished his first year in medical school, had attended Rush's lectures, attracted his favorable attention, and in his mind's eye had already succeeded Rush in the Chair of Medicine. After a dry, exceptionally hot summer, yellow fever broke out — isolated cases at first and then an epidemic. Black vomitus and death were commonplace; houses were boarded up and streets blocked off. Every citizen who could, fled to the country. Commerce languished.

Rush and Caldwell did not flee. On the contrary, the medical student moved into the pesthouse, Bush Hill, and made his home with the sick and dying. It was his view that the epidemic was caused by "pestilential constitution of the atmosphere," and he pointed out that swarms of "muskitos" and other insects were prevalent, spawned, like the fever, from "putrid exhalations." He adopted Dr. Rush's therapy, heavy doses of calomel, with the aim of inducing in his patients an artificial *cholera morbus* in the liver, converting centripetal into centrifugal action. He did not stint in the same regime when he himself came down with yellow fever.

His quarrels with Rush were brisk and chronic, springing from rivalry and, on both sides, irresistible flights of temperament. Most of them were born from charges that Rush had appropriated discoveries of Caldwell without giving his pupil credit. The feud came to a head and discharged spectacularly in the august presence of the faculty of the University of Pennsylvania when Caldwell, defending his thesis for the degree of Doctor of Medicine, directly accused Rush, his professor of medicine, of lying. It was approximately three years before Rush would sign his diploma.

The yellow fever quarrel, the point of issue, was almost too delicate for a modern mind to comprehend: "Dr. Rush (maintained) that the disease originated from the filth of the city, and, when thus produced, was propagated by contagion, and that it was therefore essentially different from common bilious fever, not only in degree, but also in kind." Caldwell, on the contrary, believed that

yellow fever was "only a higher grade of common autumnal fever, and arises, therefore from the same causes (marsh miasmata) and is subject to the same laws." The watchword was *contagion.*

In 1819 Dr. Caldwell moved to Lexington, Kentucky, to organize a medical school, the first in the west, at Transylvania University. Untiring, with limited support he raised a substantial amount of money, purchased books and whipped together a faculty with such success that within seven years his was the second largest medical school in North America. By 1836 political divisions had arisen between Caldwell, some of his teachers, and the board of trustees, and the following year he was dismissed. Louisville was a city on the rise, with river traffic and a railroad. He was appointed professor of the institutes of medicine and clinical practice in the new medical department of its university — formerly the Medical Institute of the City of Louisville. The faculty, a superior one, included Samuel D. Gross and Henry Miller. Dr. Caldwell was sixty-five, burdened with old recriminations, and frictions quickly developed. In 1849 the board of managers requested his resignation; he refused and was dismissed one year before he had agreed to retire, an act that even his detractors termed unjust.

He retired to his memoirs. His rugged health gradually declined until July 1853, when he died of erysipelas. He was buried in Cave Hill Cemetery, Louisville, under no stone — only a beech tree as memorial to his accomplishments and his pride.

Erratum

Transactions and Studies of the College of Physicians of Philadelphia July 1976 issue was erroneously printed as volume 44, #2. It is, in fact, Volume 44, #1.

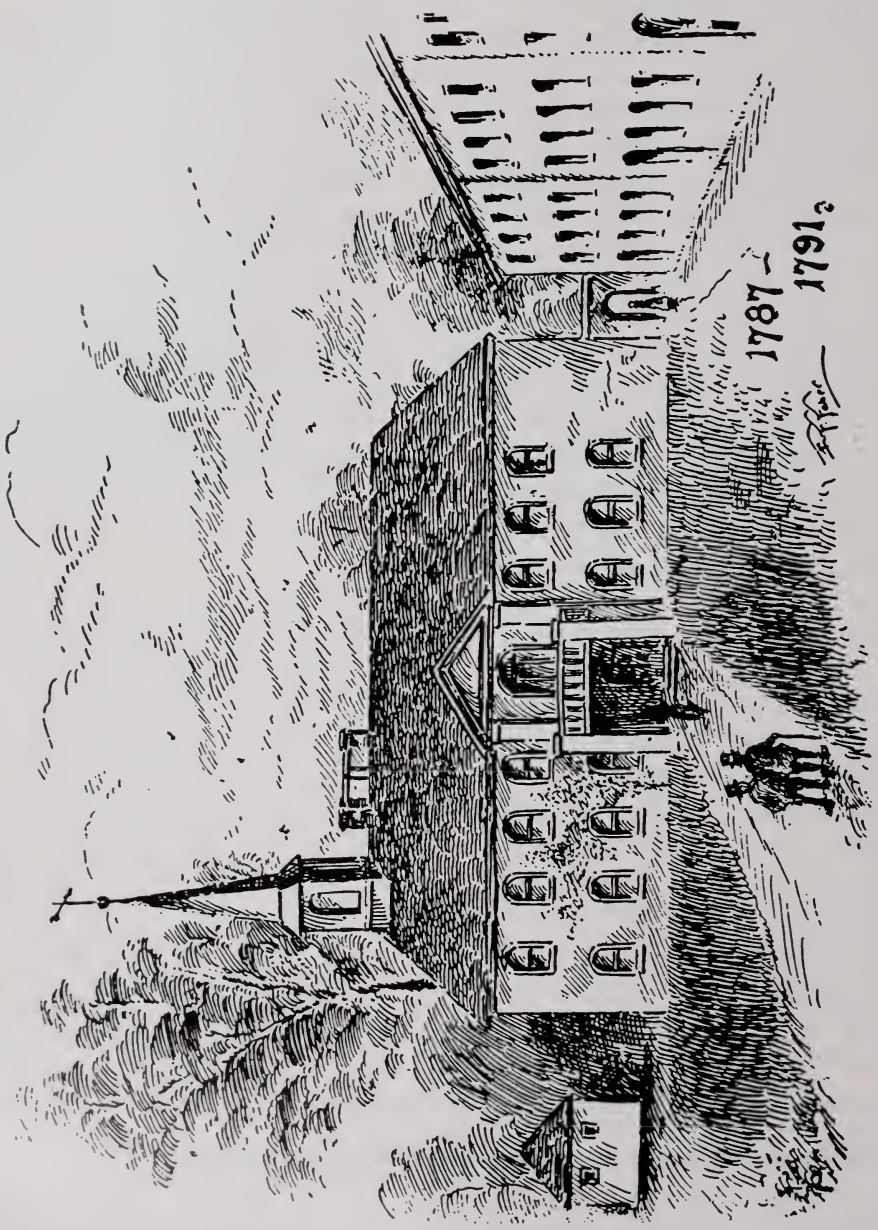


FIG. 1. The College of Physicians of Philadelphia was founded in the College of Philadelphia, located at Fourth and Arch Streets, in 1787; it continued to meet here until 1793. Pen and ink. Edwin F. Faber.

Biographical Sketches of the Founders of The College of Physicians of Philadelphia

by ELEANOR STELZNER SPOHN, M.ED.

In the year 1787, "the physicians of Philadelphia, influenced by many advantages which have arisen in every country, from well-conducted literary institutions, agreed to establish a college among themselves for the advancement of the interests of medicine in general, but especially of this country." Such a college, it was agreed, would advance the science of medicine, cultivate order and uniformity in the practice of medicine and direct its benefits to all peoples of the new world.

Twenty of the twenty-four founders of the College of Physicians of Philadelphia were members of the American Philosophical Society or of the earlier societies which merged to become that society. This learned scientific body was formed as the Colonial counterpart of the Royal Society of London. The physician-members of the American Philotophical Society began to realize that a new group devoted solely to medicine would be useful to themselves and to the citizenry. Thus the College of Physicians of Philadelphia was founded in 1787 and today continues to promote the goals of the Founders — high ethical standards in medicine, the exchange of medical information, and concern for the public welfare.

Initially the College was to consist of twelve Senior Fellows, who were to be the only ones eligible to office, and an indefinite number of Junior Fellows; this division was soon dropped.

The word "college" was taken from the word "collegium" used in old Roman law to denote a fellowship of persons with like functions, in this case, the practitioners of the art of physic. The College of Physicians of Philadelphia was patterned after the Royal College of Physicians in London and today is the oldest private medical society known to be in continuous existence in the United States.

After the founding meeting, the Fellows met on the first Tuesday of each month in the meeting rooms of the College of Philadelphia (Figure 1), founded by Benjamin Franklin and later to become the University of Pennsylvania. Here, with their learned associates, the founders investigated diseases and remedies peculiar to the Philadelphia area, observed the effects of the seasons, climate, and situations upon the human body, and searched for medicines in the American woods, waters, and in the earth. It was their hope eventually to attract the attention of the government to the desired conditions of health and happiness of their fellow-citizens.

Some of the Fellows of the College of Physicians of Philadelphia provided the impetus which resulted in the formation of the first *United States Pharmacopeia* so that there would be a uniform standard for the drugs which they would be prescribing. In 1765, John Morgan founded the first medical school of the Colonies at the College of Philadelphia; he and William Shippen were the first two professors. In the years which followed, Fellows of the College of Physicians of Philadelphia continued to be counted among the distinguished members of the medical faculty of the College of Philadelphia and the University of Pennsylvania. Today

[illegible] were represented on the faculties of [illegible] medical schools in Philadelphia, as well as the Philadelphia College of Pharmacy and Science and other institutions.

During the crisis years of epidemic and war in the late eighteenth century, the Fellows extended exemplary medical service to the Pennsylvania Hospital, the Almshouse and the Philadelphia Dispensary, and to the soldiers of the Continental Army. In the late Colonial and early Federal period of this country, Philadelphia was the capital, the largest city, and the acknowledged medical center of the nation.

Today, the College of Physicians of Philadelphia continues to serve the medical community and the public welfare with its fine library and museum, free public lectures by outstanding scientists, and programs of continuing education for physicians. It provides a forum for the discussion of important health matters and a meeting place for innumerable medical organizations.

THE FOUNDERS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA

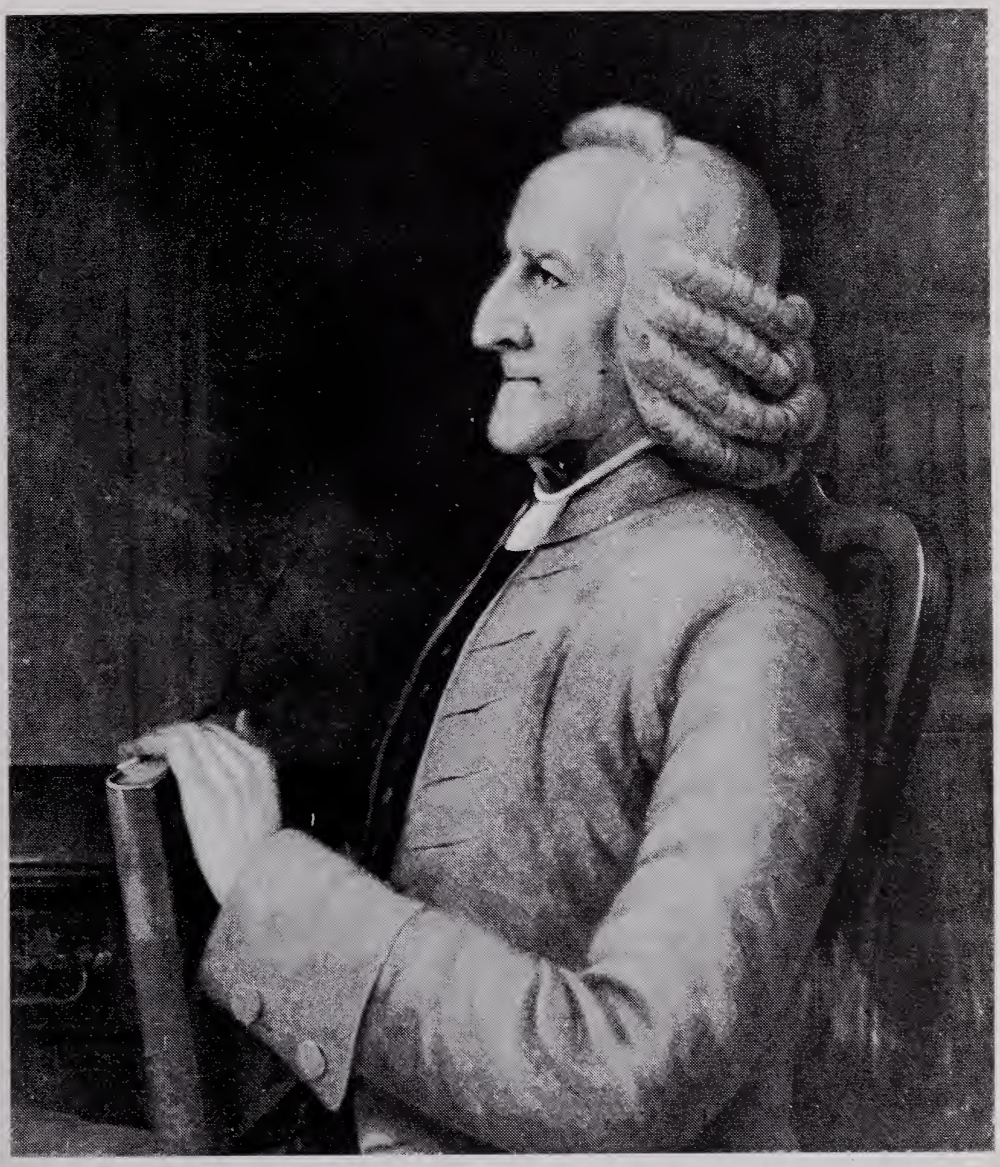
Senior Fellows

John Redman, *President*
John Jones, *Vice-President*
James Hutchinson, *Secretary*
Gerardus Clarkson, *Treasurer*
William Shippen, Jr., *Censor*
John Morgan, *Censor*
Benjamin Rush, *Censor*
Adam Kuhn, *Censor*
Samuel Duffield
Thomas Parke
George Glentworth
Abraham Chovet

Junior Fellows

Robert Harris
John Foulke
Andrew Ross
John Carson
Samuel P. Griffitts
Benjamin Say
Benjamin Duffield
James Hall
William Currie
William W. Smith
John Morris
William Clarkson

FIG. 2. John Redman. Oil. Unknown artist. 30″ X 36″.



JOHN REDMAN
1722-1808

Upon completion of a classical education, John Redman (Figure 2) became an apprentice to Dr. John Kearsley in Philadelphia. Living in an era before medical schools were established in America, Dr. Redman was later to teach men of renown — John Morgan, Benjamin Rush, Caspar Wistar — in like fashion.

John Redman studied abroad at Edinburgh, Leyden, Paris, and London, acquiring his M.D. from the University of Leyden in July, 1748. Practice of surgery, obstetrics, and medicine in America followed. During the yellow fever epidemic of 1793, he proposed the use of saline purgatives as

[illegible] of yellow fever, rather than the [illegible], emetics, and purgatives such as [illegible] and jalap which Rush proposed. Dr. Redman also was one of the first physicians in the Colonies to defend the use of direct inoculation for smallpox.

In the course of his forty years as a resident of Philadelphia, John Redman became a founder and the first president of the College of Physicians of Philadelphia, a consulting physician to the Pennsylvania Hospital, and a trustee of both the College of Philadelphia and the College of New Jersey at Princeton.

Dr. Redman and his wife, Mary Sobers, had three children. Two sons died in infancy. A daughter reached adulthood and married David Coxe.

Friends and associates described Dr. Redman as kind, tender, sincere, and sedate. Trusting in the Supreme Being, upholding formostly the qualities of integrity and usefulness, Dr. Redman is said to have served well succeeding generations because of his superior training and his high ideals. Of him Dr. Benjamin Rush wrote, "Dr. Redman . . . makes the health, comfort, and happiness of his fellow mortals one of his chief ends and delights of his life."

JOHN JONES
1729-91

A scholar (of belles-lettres), John Jones had early been subjected to the medical teachings of his father, Dr. Evan Jones, and of his cousin, Dr. Thomas Cadwalader. Possessing a natural affinity for the study of science, endowed with a fine memory and a penetrating eye, Jones would, upon completion of his studies abroad in London, Edinburgh, Leyden, and Paris, attain the reputation of a learned physician and surgeon whose fame would go before him as he prepared to return to the land of his birth.

Upon his return to America, Dr. Jones served as surgeon of the Continental Army, as physician to the Pennsylvania Hospital, and as medical consultant of the Philadelphia Dispensary. He acquired the position of professor of surgery at King's College, New York, and authored *Practical Remarks on the Treatment of Wounds and Fractures,* the first surgical text in the American colonies.

Dr. Jones was elected first vice-president of the College of Physicians of Philadelphia, became the first president of the Humane Society, and performed duties of a council member of the American Philosophical Society. While a resident of New York, Jones accepted a seat in the State Senate representing the Southern District.

A man whose "gravity of appearance and dignity of manners never failed to command respect," Dr. Jones was the physician who cared for Benjamin Franklin in his final days and was the attending physician of President George Washington and his family.

JAMES HUTCHINSON
1752-93

Born of a Bucks County farmer, James Hutchinson (Figure 3) was the recipient of an unusually good early education. His primary years of education, taken under the excellent tutelage of one Paul Preston, were followed by schooling at Burlington Academy of New Jersey. Hutchinson secured his higher education in Virginia and received his A.B. degree at the College of Philadelphia. After medical studies with Dr. John Fothergill in England, he earned an M.D. in 1774 from the College of Philadelphia. Graduating with highest honors, Hutchinson was awarded a gold medal for his proficiency in chemistry. He became an eminent practitioner and served as physician to the Port of Philadelphia and to the Pennsylvania Hospital. He held professorships in materia medica and chemistry at the College of Philadelphia. He held the position of trustee of the University of the State of Pennsylvania

FIG. 3. James Hutchinson. Oil. Louise Wood after Healy. 1897. 30″ X 25″.

and was the first secretary for the College of Physicians.

James Hutchinson not only engaged himself in medicine, but also took an active role in government, acting upon one occasion as Benjamin Franklin's emissary to Congress.

Two sons were born of his marriage to Sydney Howell, one of whom became a Philadelphia lawyer, and the other, a Consul of the United States to Lisbon. Dr. Hutchinson was a trusted and confidential friend of leading men of the Revolution. Known as "one of the best of men — always at the beck and call of persons, especially including the poor," he died of yellow fever as a result of treating the victims of that terrible epidemic in 1793 in Philadelphia.

GERARDUS CLARKSON
1737-90

"Pious" . . . "affectionate" . . . "modest" . . . "beloved" . . . these were the terms which family, friends, and associates used to describe Gerardus Clarkson.

Educated first by his step-father, the Reverend Gilbert Tennent, a Presbyterian minister, Clarkson later studied medicine under Dr. Thomas Bond, a physician at the Pennsylvania Hospital in Philadelphia.

Traveling through Europe in 1759-60, Dr. Clarkson visited hospitals in Scotland, Italy and France. Upon his return to America, he established a medical practice in Philadelphia.

A founder of the College of Physicians of Philadelphia, Gerardus Clarkson became its first treasurer, in which capacity it is said he "discharged his duties exactly." He participated as a member of the Philosophical Society and served as a trustee of the University of Pennsylvania.

A beloved parent to his family of eight children, a devout leader of Christ Church, Philadelphia, Dr. Clarkson was eulogized in death for his contribution to mankind. The *Pennsylvania Gazette* wrote, "As a physician, exceedingly tender and humane, like the friendly Samaritan, pouring wine and oil into the wounds of his afflicted patients; and many of these were of the poorer class who found from him gratuitous relief. As a member of public bodies, and as a citizen, he was liberal to the utmost extent of his abilities, and desirous to be useful in an eminent degree."

WILLIAM SHIPPEN, JR.
1736-1808

Upon his return from study abroad in Edinburgh and London, William Shippen, Jr. (Figure 4) in 1762 became a pioneer in the systematic teaching of anatomy and surgery in the Colonies. Using anatomical drawings on glass plates, gifts to the Pennsylvania Hospital from Dr. John Fothergill, an outstanding professor of anatomy in London, Dr. Shippen began a series of anatomical lectures. These he continued to give over a span of forty years. His use of human bodies in dissection, however, outraged the populace, who on more than one occasion mobbed Dr. Shippen's laboratory.

Eager to inform the laity of the need for his anatomical studies, William Shippen, Jr., arranged a display of drawings and casts in the Pennsylvania Hospital, appointing himself to the task of explaining and demonstrating these regularly, charging, at the same time, a fee benefiting the hospital. Possessing both skill and eloquence, he became widely known at home and abroad.

Son of a great medical man, William Shippen, Jr., was to surpass his father's eminence. In addition to his staff position at the Pennsylvania Hospital and on the faculty of the University of Pennsylvania, Dr. Shippen served as a member of the Continental Congress, became chief physician of the Continental Army, was appointed director general of the New Jersey Hospitals and in 1777 received the appointment as director general of all American military hospitals.

When, in 1798, he suffered the death of an only surviving son — a man of great promise — Dr. Shippen lost interest in life and his health declined.

BENJAMIN RUSH
1745-1813

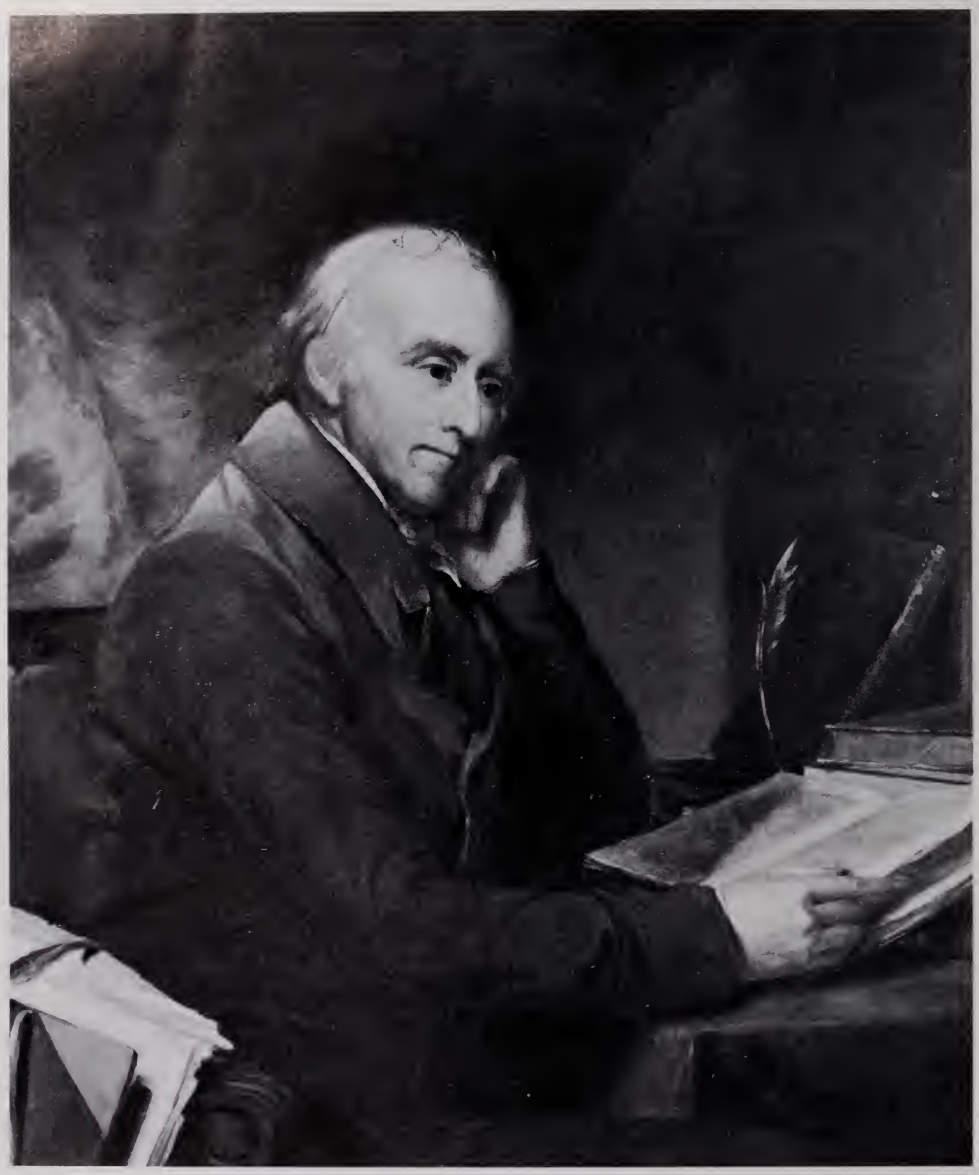
Known as "The American Sydenham," Benjamin Rush, M.D. (Figure 5) has been described as "the greatest historical figure in American medicine." Thinker, practitioner, writer, lecturer, servant of both his fellowman and his country, Dr. Rush led a life of

FIG. 4. William Shippen, Jr. Oil. Unknown artist after original attributed to Gilbert Stuart. 36″ X 30″.

enquiry, study, experimentation, observation, and evaluation. He authored works on medicine, morality, literature, and philosophy. He was a professor of chemistry, of institutes of medicine and clinical practice, and of the theory and practice of medicine at the University of Pennsylvania.

As one of fifty-six members of the Second Continental Congress and, at the age of thirty, one of the youngest men present, Benjamin Rush signed the Declaration of Independence in 1776. Dr. Rush was the most significant of the five physicians who signed the Declaration and the only one with a medical degree. In 1777, as a surgeon of the Continental Army, he worked diligently to remove corrupt administrative practices within the Army hospitals. Appointed

FIG. 5. Benjamin Rush. Oil. Adele von Helmbold after Thomas Sully. 44″ X 34″.



treasurer of the United States Mint in 1797 by John Adams, Rush served in this capacity for sixteen years.

Dr. Rush wrote the only systematic treatise on insanity before the twentieth century. His humanitarian approach to the mentally ill earned him the title of "Father of American Psychiatry." A prolific writer, he left physicians and historians a legacy of records in chemistry, surgery, medicine, philosophy, and ethics. He observed and wrote on cholera infantum, on the harmful effects of drinking cold water when overheated, on military and camp hygiene, on the evil effects of alcoholism, and on other sociomedical problems. He was the first to record that systemic disease can be relieved by the

JOHN MORGAN
1735-89

extraction of decayed teeth.

As a founder of the College of Physicians of Philadelphia, he helped prepare a list of objectives for the society as a guide for its function and service.

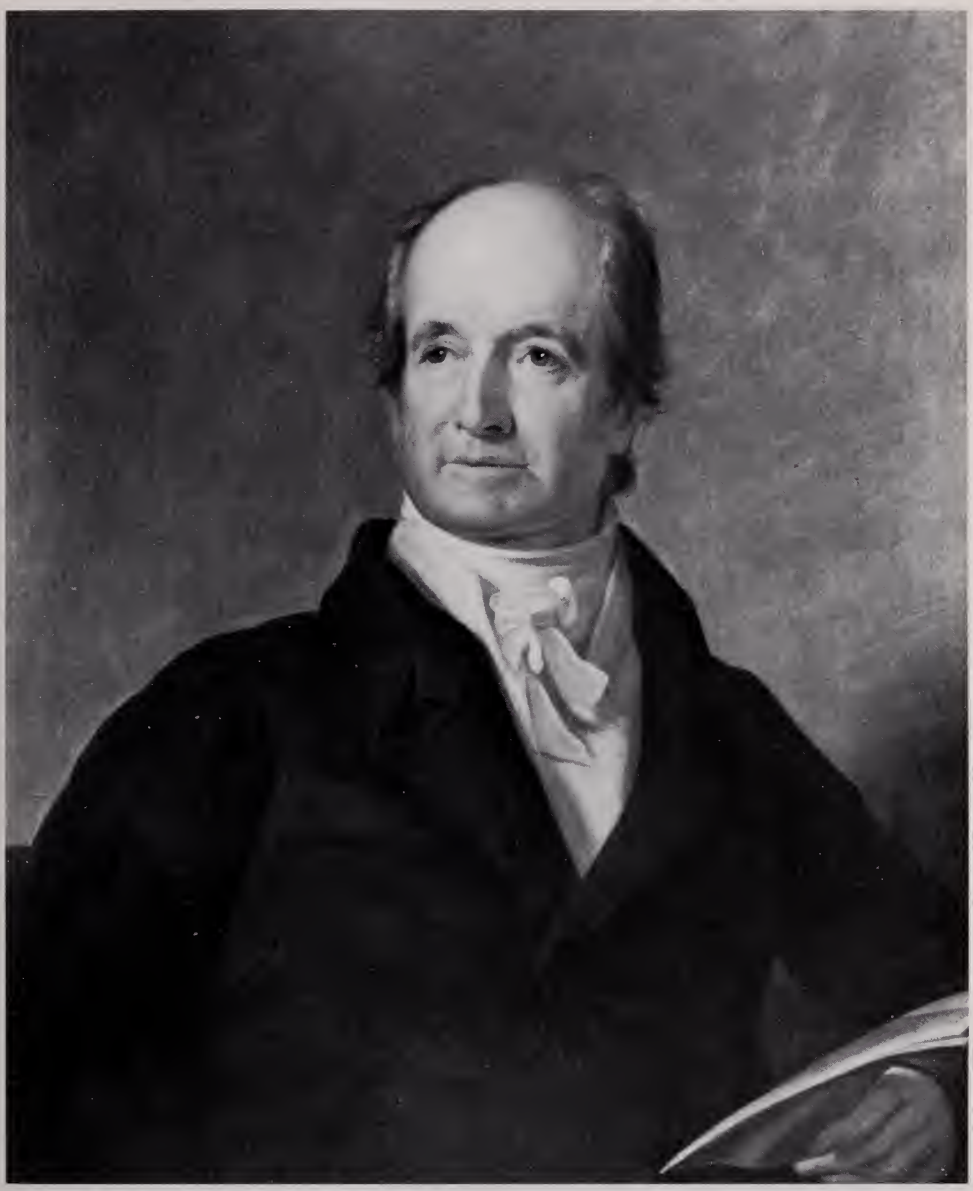
After receiving his A.B. degree from the College of Philadelphia in 1757, John Morgan (Figure 6) completed a six-year apprenticeship with Dr. John Redman before

FIG. 7. Adam Kuhn. Oil. Louis Hasselbusch from wax bas-relief. 30″ X 25″.

embarking for the British Isles for further study. Having earned his M.D. at the University of Edinburgh in 1763, Dr. Morgan toured the Continent visiting medical schools, hospitals, public health institutions, and educational facilities of France, Italy, and Switzerland. As he traveled he was made an honorary member of several learned societies. On their Grand Tour, he and Samuel Powel enjoyed many of the arts and monuments listed in Vasari's *Lives of the Artists.*

At the age of thirty, Dr. Morgan returned to America; accounts of his scholarly proficiency and professional learning had preceded his return. Medical education as structured in London and Edinburgh, with medicine, surgery, and pharmacy as separate specialties, was introduced into the Colonies

FIG. 8. Thomas Parke. Oil. Unknown artist after John Neagle. 36″ X 28″.



when he founded the first medical school at the College of Philadelphia in the spring of 1765. According to George W. Corner, historian of the School of Medicine of the University of Pennsylvania, "Morgan's plan, in fact, comprised practically all the elements of medical instruction that after long, costly trial and error, the American profession has since found to be essential."

As early as 1767, John Morgan had made proposals to Thomas Penn for the charter of a college of physicians patterned after that of London. However, it is believed that John Fothergill wished his protégé, William Shippen, Jr., to be more prominent and therefore discouraged the idea at that time. Dr. Morgan's proposal did not materialize until twenty years later.

ADAM KUHN
1741-1817

Adam Kuhn (Figure 7), first professor of botany in the American Colonies, was born in Germantown, Pennsylvania, in 1741 of Swabian immigrants. Studying medicine first under his doctor-father's tutelage, Adam Kuhn left the colonies in 1761 to continue his studies at the Universities of Uppsala and Edinburgh. While in Sweden, he was a student of the botanist Linnaeus. Upon receiving his M.D. from Edinburgh in 1767, Dr. Kuhn returned to America to set up practice in Philadelphia.

Of Adam Kuhn it was said that what he lacked in imagination, he made up in sound judgment and profound talent for observation. Held in high esteem by his elder medical brethren, he became the professor of materia medica and botany for the College of Philadelphia (1768-89) and the professor of theory and practice of medicine at the University of Pennsylvania (1789-97). Dr. Kuhn served as president of the College of Physicians of Philadelphia in 1808-17. He was consultant to the Philadelphia Dispensary and a physician to the Pennsylvania Hospital (1774-98).

After an epidemic of smallpox in 1773 in which three hundred persons of the city died, Adam Kuhn joined a society of physicians whose sole activity was to inoculate the poor against smallpox. Twenty years later, during the yellow fever epidemics of 1793 and 1794, Dr. Kuhn examined seventy persons. He reported to the College of Physicians of Philadelphia "that every person for whom I prescribed within 48 hours of his being seized with the fever recovered and continues healthy . . ." He also reported that inability to cope adequately with the disease "brought the spirit of discord among the practitioners of physic in the city."

In his thirty-ninth year Adam Kuhn married Elizabeth Hartman Markhoe. Two sons were born of this union.

SAMUEL DUFFIELD
1732-1814

With the receipt of his M.D. from the College of Philadelphia in 1768, Samuel Duffield became one of the first graduates of the first medical school in America. A physician of the City Almshouse and the physician for the Society for Inoculating the Poor, Dr. Duffield also established a pharmacy, selling medicine in both the wholesale and retail markets. From 1771 to 1775 he was the senior partner of the company of Duffield and Delany at Second and Walnut Streets.

Of immigrant French parents, Samuel Duffield and his twin brother were born in Lancaster County in 1732. Samuel's brother became a Presbyterian minister and was chosen chaplain of the Continental Congress. Although Samuel pursued a medical career, he too served the Continental Congress as an elected member, and, fostering the same love of church as did his brother, became a founder of the Third Presbyterian Church of Philadelphia, now known as "Old Pine."

During the yellow fever epidemic of 1793, Dr. Duffield was the acting physician of the Philadelphia Port. In an effort to locate the cause of the dread disease, he chronicled the conditions aboard incoming ships and the sicknesses of the men.

A member of the American Philosophical Society, Samuel Duffield served as its curator for nineteen years. Dr. Duffield served the College of Physicians of Philadelphia as censor, treasurer, and vice-president.

THOMAS PARKE
1749-1835

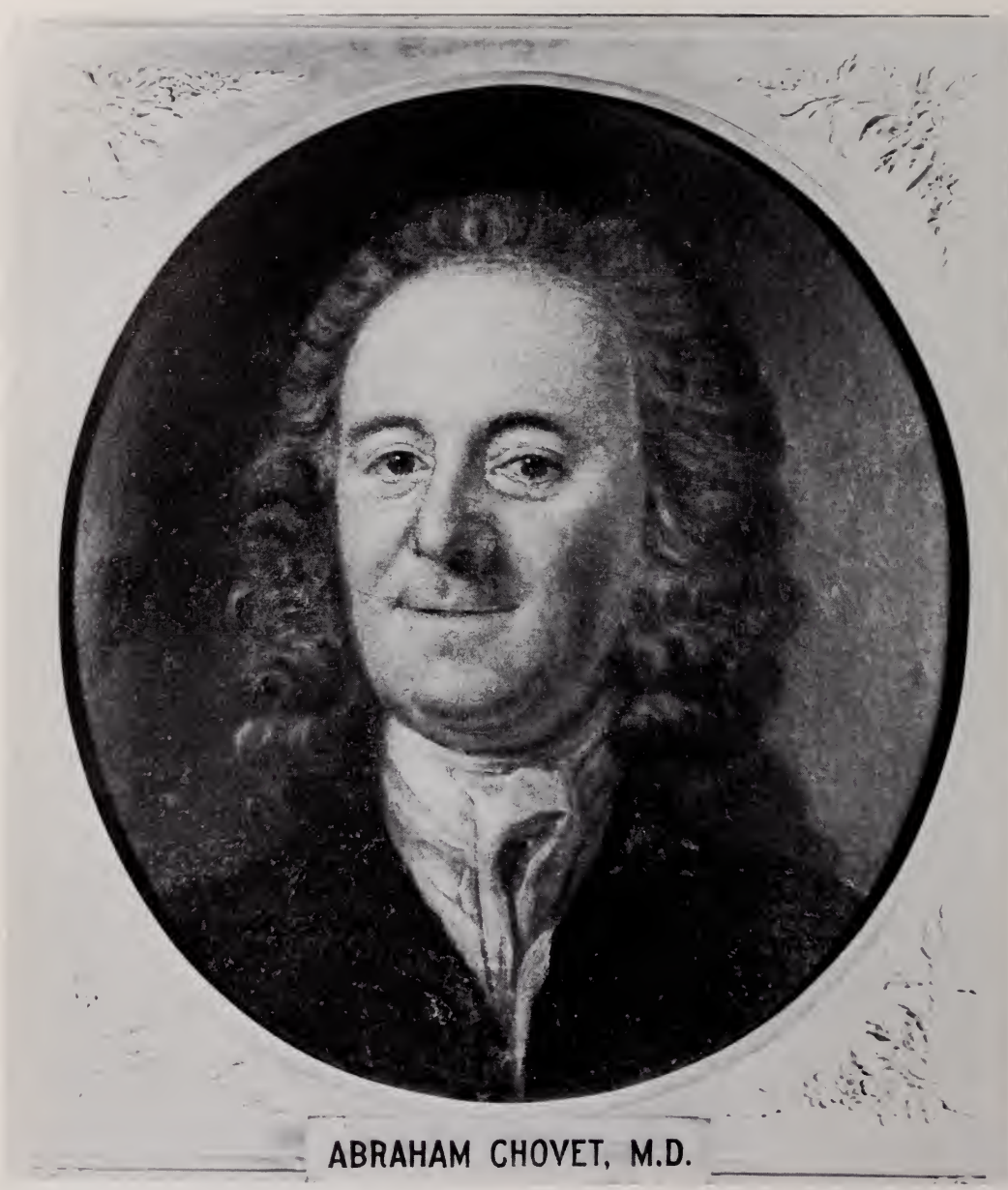
Known for the "solidity of his abilities," his

FIG 9. George Glentworth. Oil. Albert Rosenthal after Charles Willson Peale. 1910. 22″ X 27″.

plain common sense, and his role as a peacemaker within his profession, Thomas Parke (Figure 8) was the last founder to serve as president of the College of Physicians of Philadelphia (1818-35).

Following three years of medical education under the direction of Dr. Cadwalader Evans, with whom he later practiced, Dr. Parke traveled to London for clinical practice at Guy's and St. Thomas' Hospitals. Soon after his return to America he was elected a physician to the Pennsylvania Hospital, a position he held for half a century.

FIG. 10. Abraham Chovet. Oil. Unknown artist. 20″ X 16″.



Dr. Parke served as curator of the American Philosophical Society and was from 1778 to 1835 the director of the Philadelphia Library Company. He married Rachel Pemberton in 1775. She bore him a daughter and two sons, who upon their mother's death showed their father loving and exemplary filial devotion. His own devotion to duty was evident to all who knew him. Of his efforts during the 1793 epidemic, it is written, "No circumstances of personal danger, of privation or fatigue would induce him to abandon his post during those awful epidemics of yellow fever. . ."

GEORGE GLENTWORTH
1735-92

Upon the completion of an academic education, George Glentworth (Figure 9) became apprenticed to Dr. Peter Sonmans, with whom he later became a partner in a large private medical practice in Philadelphia. In 1777 he relinquished private practice to accept an appointment as a regimental surgeon, becoming later a senior surgeon for the Continental Army. Having successfully extracted a bullet from Lafayette's wound in the Battle of Brandywine, he enjoyed a life-long friendship with Washington's aide-de-camp.

Dr. Glentworth was noted for his humanity to the poor. He was a patriotic citizen of whom it was written, "His was an amiable pattern of domestic attention, worth and respectability." A constant reader of professional books, Dr. Glentworth was an able, experienced, successful physician.

ABRAHAM CHOVET
1704-90

Abraham Chovet (Figure 10) was the only foreign-born founder of the College. Born in England, son of a London merchant, Abraham Chovet — "the perfect original" — received his early education as an apprentice of Peter Gougoux Lamarque. During his later studies of anatomy in France, Chovet created wax replicas of body parts which were considered masterpieces of art. At the age of twenty-eight, he authored a text of twelve lectures for teaching entitled *A Syllabus, or Index, of all the Parts that enter the Composition of the Human Body.*

For years Chovet practiced medicine and surgery in the West Indies where he received the following recognition as recorded in *Gentleman's Magazine* in May, 1759: "Abraham Chovet, Esq., surgeon of Kingston in Jamaica, to Dr. of Physick." In 1770, Chovet with his wife and widowed daughter fled to Philadelphia from Jamaica to escape an insurrection of slaves. By 1774 he was lecturing and teaching anatomy to practicing physicians and medical students of this city.

Abraham Chovet, it is said, "brightened the 18th century Philadelphia scene." Of mirthful, peculiar disposition, he was known for his quick wit and contrary-mindedness. An outstanding anatomist, a compassionate physician, a co-founder of the College of Physicians of Philadelphia at the age of 83, Dr. Chovet was recognized as an extraordinary man "whose character and high quality of professional acquirements entitled him to rank among the eminent Seniors of the College."

ROBERT HARRIS
? - 1815

Colonial records and the Pennsylvania Archives note that Harris served the Continental Army between the years 1782 and 1785 as a surgeon's mate of the Second Regiment. Owner of a vast acreage in Pennsylvania, Harris was appointed commissioner of York County in charge of putting into effect the Act of the Pennsylvania Assembly making highways of the Susquehanna River and other Pennsylvania streams.

BENJAMIN DUFFIELD
1753-99

In 1682 Benjamin Duffield's great-grandfather emigrated to Bucks County, Pennsylvania, from England. His father, Edward, was known as "a man of scientific tastes" who held in friendship such personages as Rittenhouse and Franklin.

Upon receiving his M.A. degree from the College of Philadelphia in 1771, Benjamin

Fig. 11. Benjamin Duffield. Oil. Unknown artist. 12″ X 14″.

Duffield (Figure 11) became a medical student of Dr. John Redman and attended lectures of Doctors Morgan and Shippen. He later completed his medical studies at Edinburgh.

Dr. Duffield served as a surgeon in charge of a military hospital in Reading, ministered to foreign-speaking residents in South Philadelphia, instructed office students, and lectured on obstetrics. A founder of the College of Physicians of Philadelphia, Dr. Duffield was one of those who designed its seal and worded its motto, "*Non sibi sed toti*" — "Not for some but for all."

An ever willing writer and speaker, Dr. Duffield was often the center of attention. A man of proverbial hospitality, a person gifted in impromptu verse, Duffield's company was

coveted and his home was "the resort of wits and scholars, poets and divines." His wife, Rebecca, and two sons and three daughters shared in the grace and happiness of his life.

JOHN FOULKE
1757-96

Upon acquiring his M.D. degree from the College of Philadelphia in 1780, Dr. John Foulke (Figure 12) established his medical practice in Philadelphia. During the period 1784-94, he lectured in anatomy and served as physician at the Pennsylvania Hospital. A member of the American Philosophical Society, he held the office of secretary of that society in the years 1786-89.

JAMES HALL
? - 1801

Dr. James Hall served as attendant physician at the Philadelphia Dispensary (1786-87), was resident physician of the Port of Philadelphia (1798), and acting physician for the Lazaretto Institute (1800).

ANDREW ROSS
? - 1823

Andrew Ross received his M.D. at Edinburgh in 1780. He was a Fellow of the College of Physicians of Philadelphia until his death in 1823. He was a member of the American Philosophical Society, a member and acting physician of the Scottish Society of St. Andrew, a member of the Agricultural Society, and an inspector for the Humane Society.

WILLIAM CURRIE
1754-1828

William Currie was educated first for the ministry by his father, an Episcopalian minister. However, when it was realized that he rejected such doctrines of the church as the Trinity and eternal punishment, and that his abilities seemed better suited to the medical profession, William was apprenticed to the renowned Philadelphia physician, Dr. John Kearsley.

Although Currie never acquired an academic medical degree, he became a highly esteemed and successful practitioner who served in the course of his years as a surgeon of the American Army, a member of the Board of Health, and the senior physician of the Magdalen Asylum.

Widely-read, William Currie became an authority on medical literature and himself authored several books and pamphlets. His writings encompassed such concerns as cholera, yellow fever, malignant infections and fevers, and climate and diseases in the United States. Dr. Currie shared the considerable fortune he amassed; to "the deserving poor he freely gave his professional services and money."

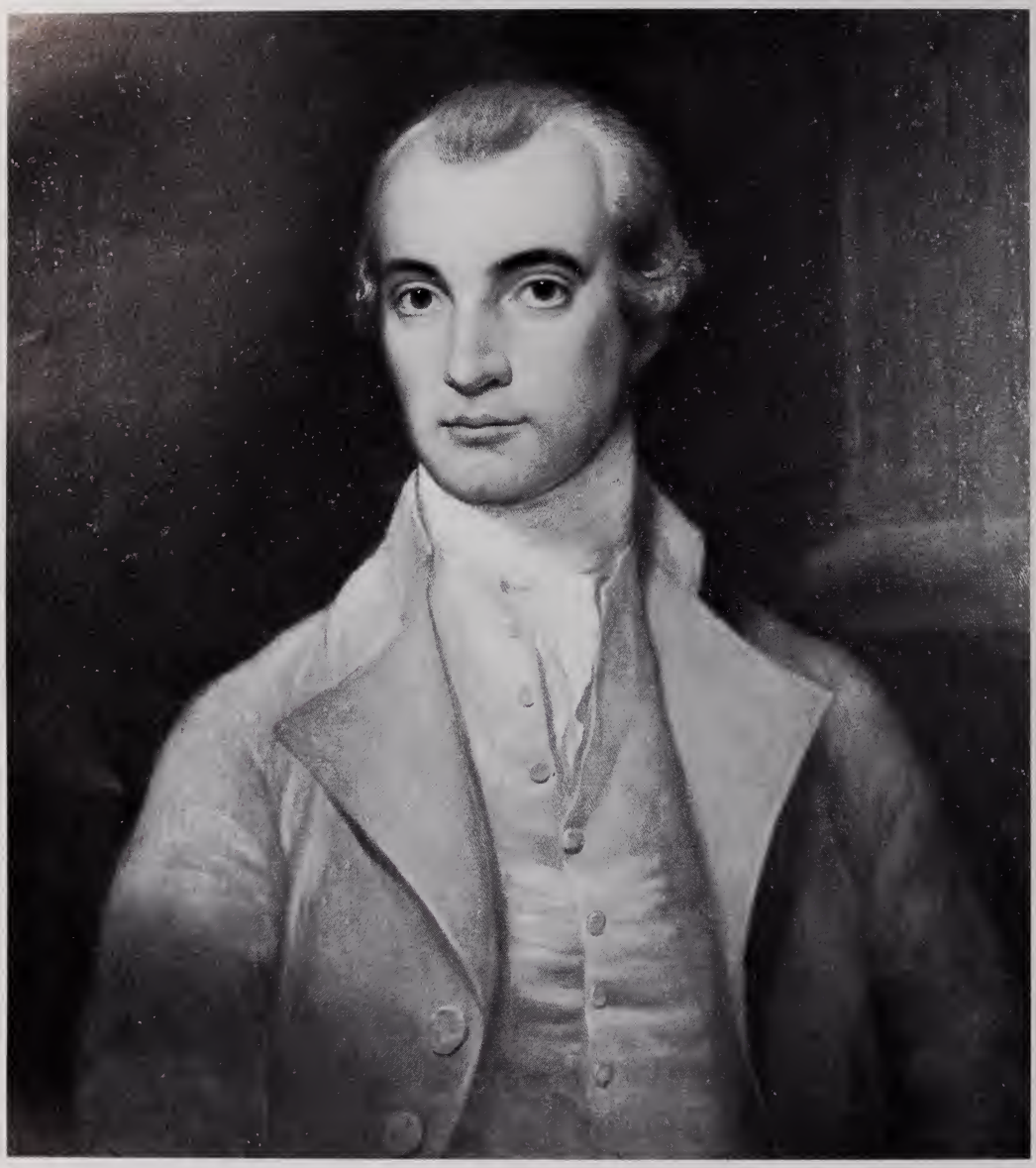
JOHN CARSON
1752-94

Upon his return from Edinburgh, where he received his M.D. degree in 1776, John Carson (Figure 13) practiced medicine in Philadelphia until called to be the surgeon of the First Troop, Philadelphia Cavalry, 1786-88.

John Carson was of Irish parentage. While abroad he married Agnes Hunter. Dr. Carson performed as an attendant physician of the Philadelphia Dispensary and served as the physician of the Hibernian Society.

A trustee of the University of Pennsylvania, Dr. Carson was called to serve as professor of chemistry in January, 1794. In October of that year, Dr. Carson died at the early age of 42.

FIG. 12. John Foulke. Oil. Ida Waugh after unknown artist. 30″ X 16″.



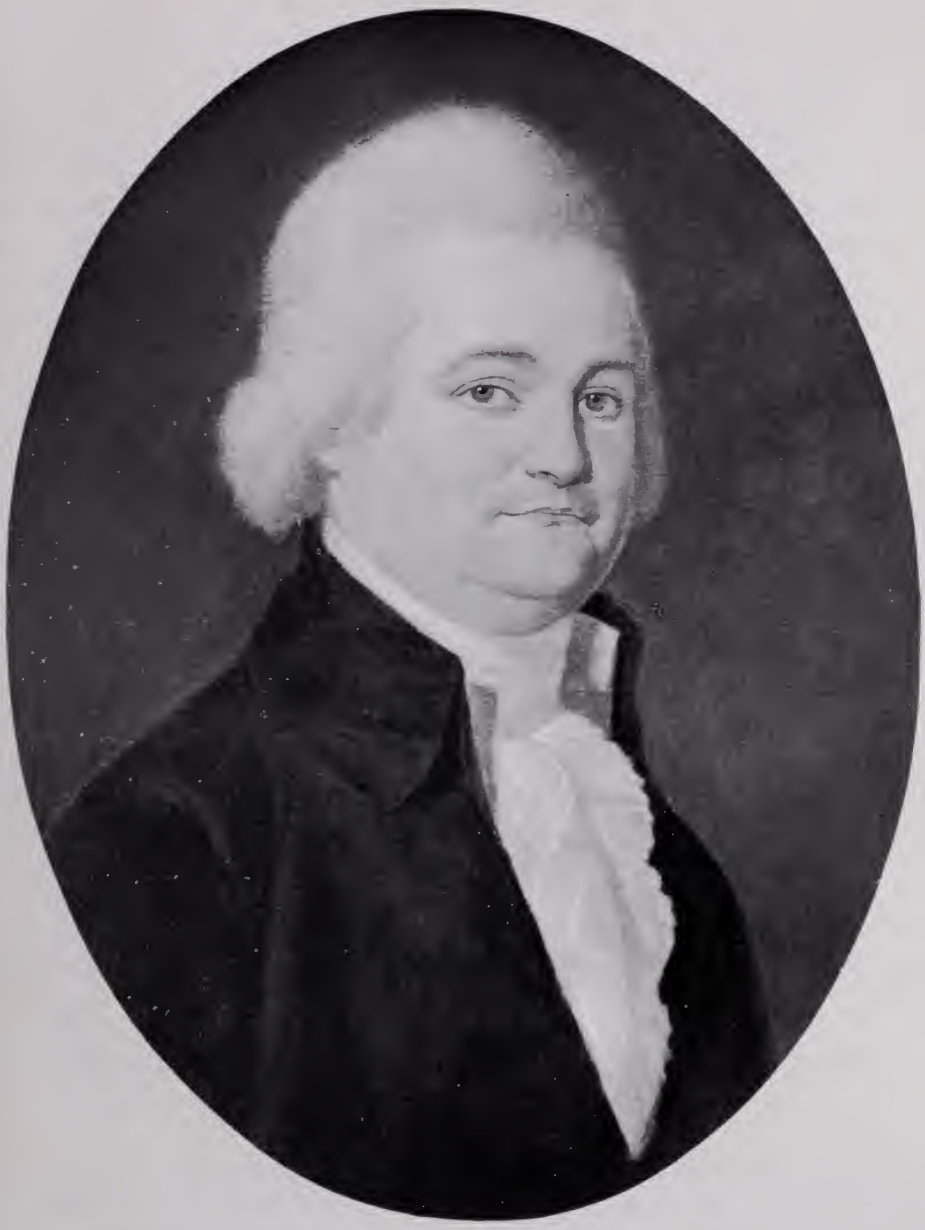
WILLIAM W. SMITH
? - 1793

Receiving his M.D. from the University of the State of Pennsylvania in 1780, Dr. William W. Smith established a medical practice in Philadelphia. He served the American Philosophical Society as secretary from 1770 to 1775 and as councilor in 1786.

SAMUEL POWEL GRIFFITTS
1759-1826

"He stood in the midst of desolation, and, regardless of personal danger, was solely intent upon extending relief to his suffering fellow citizens." In this tribute a great humanitarian, Dr. Samuel Powel Griffitts (Figure 14), stands revealed.

FIG. 13. John Carson. Oil. Attributed to Rembrandt Peale.



Intent upon "effecting the most good with the least show," Dr. Griffitts worked with ardent dedication in the cause of the poor, the enslaved, the imprisoned, for persons broken in body and spirit. As a founder and manager of the Philadelphia Dispensary, he was its daily visiting physician for forty years. As a member of the Pennsylvania Society for Promoting the Abolition of Slavery, he sought out abolitionists abroad, corresponding in search of an answer to a societal problem of immense proportions. An able linguist of French, Latin, and Greek, Dr. Griffitts befriended French refugees of Santo Domingo who sought refuge in America in 1793, caring for their every need.

He collaborated with Benjamin Rush in published works on the prevention and treatment of the prevailing yellow fever. A physician of "clear perception and sound judgment," Griffitts was one of the first of his profession to appreciate the worth of vaccination. As a member of the Society of Friends, he worked through all of its plans to erect a hospital for the insane in the Frankford section of Philadelphia, later known as Friends' Hospital. Soon after its opening in 1817, Dr. Griffitts was named consulting physician.

Feeling a paramount obligation to religion, Samuel Griffitts rose early to read the New Testament daily in Latin or Greek. In the attainment of his life-long ambition of service without reward, Dr. Samuel Griffitts contributed his life to the common good of all mankind.

JOHN MORRIS
1759-93

Dr. John Morris studied medicine with Dr. Charles Moore in Montgomery County, Pennsylvania, and established a medical practice in Burlington, New Jersey, and in Philadelphia. He was fatally stricken by yellow fever in September, 1793, and died at the age of 34.

BENJAMIN SAY
1756-1813

Like his father before him, Benjamin Say served as an apothecary, a physician, and an active public-spirited citizen. So great an impression did his father's life make on Benjamin that, upon his father's death in 1796, he prepared a tribute to his memory entitled, "A short compilation of the extraordinary life and writings of Thomas Say." A son of Benjamin's, bearing his father's name, would one day become a world-renowned naturalist.

Dr. Benjamin Say was treasurer of the College of Physicians of Philadelphia from 1791 to 1809. He became a founder of the Horticultural Society of Pennsylvania, serving as its president in 1802, and was a founder of the Pennsylvania Humane Society, serving as its president in 1799. An involved citizen, Dr. Say was elected both to the Pennsylvania State Senate (1799) and to the Pennsylvania State House (1808). At the same time, he held membership in a variety of societies such as the Medical Society of London, the Farmer's Society of Virginia, the Abolition and Prison Societies, and other humane and charitable institutions. Twice married, first to Ann Bonsall, granddaughter of botanist John Bartram, and later to Miriam Moore, Dr. Say fathered seven children, six of whom lived to share his large estate with his second wife.

Highly esteemed, a leader of men, an office-holder in humanitarian and civic affairs, Dr. Benjamin Say was also a compassionate, diligent servant of the people. In his "Leger" of 1796-1804, he painstakingly recorded visiting dates, persons, occupations, addresses, ailments, advice given, medication recommended and fees charged. Dr. Say reveals himself as a concerned bedside physician persistent in his pursuit to comfort and cure those in need.

WILLIAM CLARKSON
1763-1812

William Clarkson was the second son of Gerardus and Mary Flower Clarkson. His paternal grandfather, Matthew, was three times the Mayor of Philadelphia. Following the example and teachings of his physician father, William graduated from the Medical Department of the University of Pennsylvania in 1785. While attending college, Clarkson fell in love with Catherine Floyd, daughter of General William Floyd, a

FIG. 14. Samuel Powel Griffitts. Conté crayon. Unknown artist.

signer of the Declaration of Independence. Four children were born of their union.

Dr. Clarkson established his medical practice in Philadelphia, the city of his birth. He became attending physician at the Philadelphia Dispensary in 1786, and with his father and others was one of the founders of the College of Physicians of Philadelphia in 1787.

In 1791 Dr. Clarkson suffered a long illness during which he reflected upon religious matters and experienced a conversion. Subsequently he became a Presbyterian

clergyman and held pastorates in that denomination in New Jersey, New York, Georgia, and South Carolina. Dr. Clarkson was considered by his associates in the medical profession and in the church as "a man of more than usual ability and worth" who, "as a husband, a father, a friend and in the various relations of life, . . . exhibited an amiable example of affectionate tenderness and Christian integrity."

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She is married to the Reverend Arnold P. Spohn, USN, Ret., a staff chaplain at the Philadelphia State Hospital at Byberry. The Spohns have one son, Paul, who is presently working for the Philadelphia Chapter of the American Red Cross.

ILLUSTRATIONS

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Memoir of Philip S. Barba (1895-1976)

By VICTOR C. VAUGHAN, III, M.D.

Philip S. Barba, M.D., died on March 28, 1976, in his eighty-first year. With his passing the Nation loses one of the giants of the field of pediatrics during the past half century.

Philip Barba was born in Philadelphia on August 25, 1895. He received his early education at Germantown Friends School and Germantown Academy, and was graduated from Princeton University in 1917. Following service in the Armed Forces in the First World War, he attended the University of Pennsylvania School of Medicine, receiving his degree in 1923. Following an internship at Germantown Hospital and a period at Children's Hospital of Philadelphia, Philip Barba entered the practice of pediatrics in the Germantown area, in which he remained active for nearly fifty years. He served on the staffs of Presbyterian Hospital, Roxborough Memorial Hospital, Hospital of the University of Pennsylvania, St. Christopher's Hospital for Children, and Albert Einstein Medical Center, Northern Division. He served for many years as chief of pediatrics at Germantown Hospital.

Philip Barba was the 126th Pediatrician to be certified by the American Board of Pediatrics (in 1934). He joined the Graduate School of Medicine of the University of Pennsylvania in 1935 as instructor of pediatrics and advanced in the next twenty years to associate professor of pediatrics, holding after 1948 the rank of associate professor of pediatrics at Temple University School of Medicine as well. From 1958 to 1965 Philip Barba served as associate dean of the School of Medicine of the University of Pennsylvania. Following his retirement he joined the faculty of Temple University School of Medicine as adjunct professor of pediatrics, with major responsibility for the education of those medical students who receive their pediatric experience at Albert Einstein Medical Center. He was much beloved and respected in this activity and was pleased to know that the *Yearbook* of the graduating class of Temple University School of Medicine was this year to be dedicated to him.

From his earliest years in medical practice Philip Barba contributed to child care in the community-at-large. He joined the Philadelphia Pediatric Society in 1925 and served as its president in 1941. He served the American Academy of Pediatrics in a variety of roles after 1932, including its presidency in 1952-53. In 1956 he received the Clifford G. Grulee Medal of the American Academy of Pediatrics for outstanding services to that body. He was a member of the Committee on Maternal and Child Health of the American Medical Association from 1953 to 1962, serving as its chairman in the last three years of his appointment. He was a member of the National Advisory Committee on Poliomyelitis in the years 1956-57, and of the President's Citizens Advisory Committee on Fitness of American Youth from 1957 to 1960. He served on the Sub-committee on Classification of Causes of Fetal Death of the U.S. National Committee on Vital Statistics from 1957 to 1962, and on the National Committee for the 1960 White House Conference on Children and Youth from 1958 to 1960. He served the Community Nursing Service of Philadelphia as a board member from 1959 to 1967, and on the Committee on Home Care and Services of the Health and

Welfare Council of Philadelphia from 1960 to 1965. He had a dozen or more contributions to medical literature.

Philip Barba combined in a remarkable way qualities of leadership and gentle compassion and good humor. He presented for students and for all who knew him a superb model of the skillful and devoted physician and the gifted teacher. He is survived by a son, William P. Barba, II, M.D., who followed him into medicine, and by six grandchildren. His wife, the former Martha Purcell of Richmond, Virginia, died in 1973.

Philip Barba was a Fellow of the College of Physicians of Philadelphia from 1940 until his death.

Memoir of Sherman F. Gilpin, Jr. (1903-75)

By JOHN LANSBURY, M.D.

Sherman F. Gilpin, Jr., was born on June 29, 1903, in Philadelphia, the only child of Dr. Sherman F. Gilpin, Sr., a well-known neuropsychiatrist in this city. He died on November 25, 1975, at the age of 72, after a prolonged illness, and is survived by his wife, Kathryn H.

He attended West Philadelphia High School, and received a B.A. degree from the University of Pennsylvania in 1926. Following his graduation in medicine from the University of Pennsylvania in 1929 he took an internship at Philadelphia General Hospital for two years, followed by a one year residency. In 1929 he was a resident in the Department of Neurology at the Mayo Clinic, and following his graduation from there in 1932, he became an Assistant on the Neurological Staff. He was appointed assistant professor in neurology at Temple University School of Medicine in 1936. In 1940 he was certified by the American Board of Psychiatry and Neurology. He belonged to the A.M.A. and the County and State Medical Societies. He was also a member of the American Academy of Neurology, the Philadelphia Neurological Society, and the Philadelphia and American Psychiatric Societies. He was elected to the College of Physicians of Philadelphia on October 7, 1952, being proposed by Drs. W. E. Chamberlain and George P. Rosemond.

In addition, Dr. Gilpin served as neurological consultant to the Germantown Hospital and to St. Luke's and Children's Medical Center, and from 1941 on was neurological consultant to the Methodist Hospital.

During his residency at the Mayo Clinic and early in his service at Temple University School of Medicine, he published a number of studies dealing mainly with infections of the central nervous system. In 1960 he was advanced to full professor and served as chairman of the Department of Neurology at Temple University School of Medicine. He retired with the title of emeritus clinical professor of neurology in August, 1973. Following his retirement he suffered a prolonged illness of the central nervous system to which he eventually succumbed in November, 1975.

I was privileged to count Dr. Gilpin as a close friend during my residency at the Mayo Clinic and for many years thereafter at Temple University School of Medicine. Dr. Gilpin was noted for his forthright manner and jovial attitude, and was beloved by everybody. His main interests were teaching and patient care. He was noted for the fidelity with which he carried out his work. He continued to maintain an active interest in music throughout his life and had a keen appreciation of the beauty of nature and the countryside.

Memoir of Paul György (1893-1976)

By CATHARINE S. ROSE, PH.D.

Paul György, who died on February 29, 1976, at the age of eighty-two, was known and respected throughout the world for his achievements in the fields of pediatrics, biochemistry, and nutrition.

Dr. György was born on April 7, 1893, in Nagyvarad, Hungary. He received his M.D. from the University of Budapest in 1915. In 1920 he went to the University of Heidelberg, where he studied under Professor E. Moro, and became professor of pediatrics from 1927 to 1931. He left Germany in 1931 and after two years at Cambridge University came to the United States, where he lived for the rest of his life. He worked first in the Department of Pediatrics at Western Reserve University. In 1944 he came to the University of Pennsylvania as associate research professor in the Department of Pediatrics. He was subsequently appointed professor of pediatrics and, in 1963, emeritus professor of pediatrics. From 1950 to 1957 he was pediatrician-in-chief at the Hospital of the University of Pennsylvania. In 1957 he became chief of pediatrics at Philadelphia General Hospital, a position he held until 1963. At that time he retired from active daily duty at the hospital to be able to devote full time to his research activities and to the travel which his increasing involvement in international nutrition problems entailed.

Dr. György was a dedicated physician and an able and inspiring teacher, but his fundamental interests lay in research. He was author of over 400 scientific publications, of which a dozen appeared while he was still a medical student, and several were in press at the time of his death. His nutritional research laboratories at the Hospital of the University of Pennsylvania and Philadelphia General Hospital attracted students from Europe, Africa, South America, and the Far East. It is possible to refer to only a few of his accomplishments.

With Kuhn and Wagner-Jauregg he isolated and identified riboflavin, at the same time dissociating its specific biological activity from other effects of "vitamin B2" and so recognizing the complex nature of B2. At the same time as this work (ca. 1930), Warburg and Christian were studying oxidative enzymes. The possibility that the pigment in Warburg's "yellow enzyme" might be the yellow, fluorescent "lactoflavin," as it was then called, occurred to the vitamin group and they were able to prove that this was indeed the case. A reminiscence written by Dr. György in 1954 (*Nutr. Rev.* 12:97) states: "In retrospect, the discovery of riboflavin may be considered as a scientific windfall. It opened the way to the unraveling of the truly complex vitamin B2 complex. Perhaps even more significantly, it bridged the gap between an essential constituent and cellular metabolism. Today, with the general acceptance of this idea, it is not considered surprising that water soluble vitamins represent essential parts of enzyme systems."

Riboflavin did not cure the dermatitis induced in rats by deficiency of "B2" and in the next years György identified this "rat acrodynia factor," now known as vitamin B6 or pyridoxine. In 1964 an International Symposium on Vitamin B6 was held in New York in his honor as discoverer of this vitamin.

It was under his first professor of pediatrics, Dr. Moro, that Dr. György began

his work with human milk. The clinical and laboratory studies which he continued for many years strengthened his belief in the importance of breast feeding and the uniqueness of human milk. Successive generations of medical students quoted his dictum: "Cow's milk is for the calf; human milk is for the human infant." Studies on the growth factor for *L. bifidus* and of a fraction from human milk enhancing resistance to infection have led to the discovery of a large group of minor components of human milk (almost absent from cow's milk) of which the fundamental significance is only now being elucidated. Dr. György received the Borden Award from the American Institute of Nutrition for his work in this field, and in 1974 La Leche League International established the Paul György Awards for the best original papers on breast feeding submitted by medical students in 1975 and 1976.

In 1939 Dr. György first demonstrated the nutritional origin of forms of hepatic necrosis and cirrhosis. He served on the National Advisory Committee to the United States Army Surgeon General on Liver Disease. It was this background which influenced his increasing attention to the world-wide problems of malnutrition, particularly in preschool children, the most vulnerable part of the population. He was active in the organization of the WHO/FAO/UNICEF Protein Advisory Group and was its chairman from 1960 to 1964. From 1962 to 1968 he directed field studies in nutrition in Indonesia and Thailand. During these years he became convinced that many of the efforts to improve nutrition were relatively ineffective. Food sent to a country could be valuable only if it reached the people who really needed it and if they knew how to use it, and even then this could be only a stop-gap procedure. Improvement in nutritional status can come only with improvement of the whole eco-system. In his Howland Award Address (1968), Dr. György said, "Malnutrition is by no means a health problem alone. Especially in its preventive aspect, there should be a joint effort in applying the principles of ecology which include all environmental factors such as public health, agriculture, economics, education, demography, cultural anthropology, psychology, and social welfare. This synthesis has not been carried out to any appreciable extent in the past."

Dr. György was a man of utmost integrity. He could accept no less in his associates. Working with him was an inspiration. His knowledge was encyclopedic. His enthusiasm, his breadth of ideas, were combined with meticulous attention to design and execution of studies and infinite patience in scientific work. That one was devoted to the job and worked long hours was no particular virtue in his eyes: what else could be so rewarding, so much fun?

Such a man would not have many hobbies. In his younger days he played the piano well and always enjoyed music, particularly that of Bach. He, with his family, attended the annual Bach Festival in Bethlehem for many years. His home in Villanova had beautiful trees and flowers (the daffodils and azaleas made a beautiful spring display), and he worked in the garden, being particularly proud of his tomatoes, until his many travels made it impractical. His social life was centered in his home and there he welcomed many friends and colleagues for an evening, a week-end, or a week. Residents who had known only the sometimes brusque, rather formidable professor were surprised to meet the jovial host and delighted to become acquainted with the charming lady (and excellent cook) who was his wife.

Paul György's keen mind led to significant scientific discoveries. His humanity directed that such discoveries should be used to improve life, particularly to give children a better start in life. With his enthusiastic and forceful personality he was able to convey this message to others, and his influence will not soon be lost.

Memoir of George M. Laws (1881-1976)

By WILLIAM D. CHAMBLIN, JR., M.D.

George M. Laws, M.D., will always be remembered as a physician who embodied the concept of a primary care physician in combination with the specialist. At the time of his death at the age of ninety-four, Dr. Laws, who was affectionately known as "Pappy Laws" by his friends and contemporaries, was the oldest member of the staff of Presbyterian-University of Pennsylvania Medical Center. He was a Fellow of The College of Physicians of Philadelphia for forty years. Until a few months before his death he was an active participant and advisor at the hospital and the college.

Dr. Laws was born in Philadelphia and raised in Paulsboro, New Jersey. He graduated from the University of Pennsylvania in 1902. In 1905 he received his medical degree from the University of Pennsylvania Medical School and interned at the Hospital of the University of Pennsylvania.

In 1906 Dr. Laws became a staff member of the Graduate Hospital of the University of Pennsylvania and then became an assistant in gynecology at Presbyterian Hospital in 1908. Thereafter he rose to the position of chief in the Department of Gynecology at Presbyterian and also served a term as president of the staff of the hospital. In addition he was an associate professor in gynecology at the University of Pennsylvania Medical School and served in France during World War I with a Pennsylvania Hospital Unit. He returned from the Medical Corps as a major in 1942.

Dr. Laws was a member of the Philadelphia County Medical Society and the Philadelphia Academy of Surgery. He also served as president of the Obstetrical Society of Philadelphia, of which he was a charter member, and the Doctors Golf Association. Through Dr. Laws, The George L. and Emily McMichael Harrison Fund for Gynecological Research was established at Presbyterian-University of Pennsylvania Medical Center. This fund continues to be one of the most beneficial and prestigious of its kind at the hospital.

Dr. Laws is survived by his wife, the former Elizabeth Williams, a son, G. Malcom, Jr., a daughter, Elizabeth, and four grandchildren.

Dr. Laws set a superb example of an excellent gynecologist, a beloved primary care physician, and a constructive advisor to all those with whom he was associated. He added a special dignity and enrichment to the practice of medicine.

Memoir of Howard C. Leopold (-1975)

By J. WOODROW SAVACOOL, M.D.

Howard C. Leopold, M.D., a Fellow of the College since 1965, died on November 13, 1975, after a long illness. He was affiliated with Jefferson Medical College during most of his medical career, having been graduated from the College in 1932. During a two-year internship at the Old Jewish Hospital in Philadelphia, he developed an inclination toward pediatrics as a career specialty. However, after a few months' residency at Children's Hospital in Philadelphia, he had an opportunity to study infections in childhood with Dr. Bela Schick at Mt. Sinai Hospital in New York. He transferred to Mt. Sinai and soon thereafter Dr. Schick sent him to the Cooke Clinic in New York, encouraging him to take up studies in allergy, which was a relatively recent and developing specialty. This stimulated his interest in the field of allergy, which continued throughout his professional life. He returned to Philadelphia in 1936 and became affiliated with Dr. Alexander Clark, who had pioneered in this specialty at Jefferson Medical College Hospital. Following his marriage to Irma Goldbaum on January 5, 1941, he pursued the practice of allergy until he entered military service in 1942. During World War II Dr. Clark died, and when Dr. Leopold returned to civilian life, there was an increasing demand for his services. He devoted much time and energy to the allergy clinic at Jefferson, in addition to a rapidly expanding private practice. Upon the retirement of Dr. Harry Rogers, Dr. Leopold was appointed chief of the allergy clinic, in which capacity he continued until his death.

He advanced in the teaching ranks at Jefferson Medical College and became associate professor of clinical medicine, a rank he retained until his conversion to honorary status at age sixty-five. His dedication to Jefferson was manifested again by his willingness to resume his duties as chief of the allergy clinic while awaiting the appointment of a successor. In addition to his clinical and teaching responsibilities, he was a consultant in allergy to the Betty Bacharach Home for asthmatic children in Longport, New Jersey, and a regional consultant to the Jewish National Home for asthmatic children in Denver, Colorado. In 1972 he was appointed chairman of the Committee on Education and Curriculum of the American Association of Certified Allergists. He was a past-president of the Philadelphia Allergy Society.

Dr. Leopold was an able clinician who participated in and helped to further the new knowledge and developments in his field. He also was devoted to his family, including his wife, who survives him; his son Lawrence, a marine geologist; his daughter, Dene, who is pursuing an academic career in the history of art; and his son Andrew, who is presently a corporate tax expert. His brother, Irving H. Leopold, M.D., is well known in medical and ophthalmologic circles, having held numerous academic positions. He is presently developing the Department of Ophthalmollogy at the University of California at Irvine.

Dr. Leopold was a determined, forceful individual whose patients benefited greatly from his ability to support them during chronic illness. The courage and stamina exhibited during his own terminal illness testified to his strength of character.

Memoir of Benjamin D. Parish, Jr. (1905-76)

By JOSEPH W. STAYMAN, JR., M.D.

Benjamin D. Parish, Jr., M.D., born in 1905, was the son of Benjamin D. Parish, M.D., a well known Philadelphia physician, who was elected a Fellow of the College in 1919.

The younger Dr. Parish attended Germantown Academy and graduated in 1925. He received his college education at Dartmouth and attended Dartmouth Medical School in 1930 and 1931. He then attended the University of Pennsylvania Medical School, where he received his M.D. degree in 1933. He became established in general practice in the Chestnut Hill-Flourtown area. His practice was interrupted by World War II, when he served as a captain in the Army Air Corps from 1942 to 1946. Following the War, he resumed his practice and became very active on the staff of the Chestnut Hill Hospital. He was president of the staff in 1961 and 1962, and, following his retirement, he set up and ran the Utilization Review Department of the hospital. He was also active on the staff of the All Saints' Hospital, particularly after his retirement. He became a Fellow of the College of Physicians of Philadelphia in 1963. He was a charter Fellow of the American Academy of Family Physicians, a member of the American Academy of General Practice, Montgomery County Medical Society, Pennsylvania State Medical Society, and the American Medical Association.

He was married to Hanna Yost and they had two sons, Benjamin, III, and Henry. Hanna died in February 1971 and he later married Mary L. Wolferth, M.D. Dr. Parish died of lung cancer on March 29, 1976, at Pottstown Medical Center.

Memoir of Jacob S. Sherson (1907-75)

By PAUL S. FRIEDMAN, M.D.

On August 3, 1975, Jacob S. Sherson, M.D., died. Upon his death, American medicine and the people of the Delaware Valley lost a man who was truly a physician. His family lost a warm husband and father, ever conscious of their needs.

The detailing of the formal accomplishments of an individual such as Jacob Sherson does not convey his human qualities.

He was graduated from the University of Pennsylvania and from the Temple University Medical School.

In his early years in practice, Jacob Sherson was director of public health of Chester County, contributing to the control of venereal disease and tuberculosis. Through his interest in psychiatry, he also became affiliated with the Embreeville State Hospital. Both there and later at the Devereaux Foundation he gave many years of devotion to the mentally and emotionally disturbed.

He served on the staff of the Chester County Hospital in West Chester from 1933 to 1967. From 1953 to 1967, he was on the staff of the Devereaux Foundation, which treats emotionally and mentally handicapped youngsters and adults.

He was medical director for tuberculosis and geriatrics at the Rush Hospital at Malvern from 1945 to 1967. During that period he directed the change in the hospital from a tuberculosis center to one increasingly concerned with the care of geriatric patients. He served as admitting physician of the Veterans Administration Hospital in Philadelphia. In addition to these responsibilities, he conducted a private practice in Malvern.

He was a specialist in chest diseases and was a Fellow of the American College of Chest Physicians. He was also a Fellow of the College of Physicians of Philadelphia, and a charter member of the American Academy of Family Practice.

But the accomplishments, impressive as they are, are not the true measure of the man.

I had the privilege of serving on the staff of Rush Hospital with Jack. I remember an exceptionally able physician, but more significantly one who was exceedingly kind, compassionate, and understanding, ever concerned with the needs of his patients and fellow physicians.

He truly lived the words of Micah: "What does the Lord require of thee, but to do justly, and to love mercy and to walk humbly with thy God."

His family remember him as a soft-spoken man of great kindness, who was an able raconteur with a great sense of humor. They recall him as a husband and father who was deeply devoted to his wife, Roslyn, and his two sons, Marc and David.

There is no better expression of what Jacob Sherson was than this quotation from a letter written to the family by a former Malvern patient, a Catholic brother: "We thank the Lord for the love which went forth from him, for the gentleness and confidence he imparted to his patients, for his dedication to his profession. I shall never forget all he has done for me physically and spiritually. May his love and dedication live on in you for generations to come."

Memoir of Stanley Stapinski (1908-75)

By EUGENE A. HILDRETH, M.D.

Stanley M. Stapinski, born and raised in the Wilkes-Barre, Pennsylvania, area and for many years a practicing physician in Glen Lyon, was an individual with a rare mixture of inherent brilliance, industry, and talent, which allowed him to be many things to many people.

Stan attended Franklin and Marshall College where, I am sure, he must have done well academically, but his extracurricular activities may have caused some concern to rulers of the campus. From there, he went to Jefferson Medical College, where he partly paid for his education by playing professional football until he broke his femur, at which time one of his professors at Jefferson, the team orthopedic surgeon, recognized his injured medical student and informed him his football career was over.

From Jefferson Stan returned to his home area and began his career practicing surgery, pediatrics, medicine, and all medical disciplines including obstetrics and gynecology. As other physicians with special skills moved into the Wilkes-Barre area and as medicine became more complex, Stan slowly evolved into an outstanding internist. Anyone serving as his consultant had the pleasure of being grilled by Stan on every aspect of the patient's illness, both practically and intellectually, so that a consultation with Stan was always a stimulating experience. Stan's perusal of the literature was extensive, and for many years he would utilize his day off to go to the Hospital of the University of Pennsylvania, where he would make rounds with the house staff, attend medical grand rounds, and then spend the afternoon with a specialty group until, after several months, he felt he mastered what he needed from that group. Then he would move to another group of subspecialists, gaining skills from them as well, in order to further his practice. Always at the end of this busy day of "rest and recreation" in Philadelphia, he would visit his patients in the University Hospital so that they had a feeling they were never that far from home.

As a consultant on many of Stan's patients, I learned that the best time to reach him in order to discuss his patients would be midnight, which was when his office hours were thinning out. Despite the hour, if one called him about a patient, the discussion would last 30-45 minutes before Stan's intellectual curiosity and concern for his patient would be satisfied. From my standpoint, this was always a very rewarding way to end the day.

Another aspect of Stan's amazing medical facility was highlighted by two physicians I met, who practiced family medicine in the same vicinity and who always complained that they "never saw anything interesting." I'm afraid, indeed, that *was* the case. On the other hand, in the same setting, Stan was always finding interesting problems involving his patients. He constantly amazed those of us on the faculty of the Hospital of the University of Pennsylvania with his diagnostic acumen, so much so that when he called with a tentative diagnosis, the house staff and faculty soon learned to assume that Stan was correct "until proven otherwise." The most impressive example to one of my residents was when Stan called to announce

that he felt the patient he had just seen in his office was suffering from a thymoma and aplasia of the bone marrow. Subsequent studies at the medical school proved Stan's diagnosis to be correct; only six such patients had been reported in the medical literature at that point in time. In brief, Stan's medical ingenuity was exceptional, and devotion to his patients was outstanding.

As if these activities were not enough, Stan had many other interesting skills. At one point, his golf score was sufficiently low that it was suggested by many people that he should turn professional. Shoulder bursitis and later the time it took away from his practice of medicine negated this move, I am glad to say.

He entered the field of photography and won a *National Geographic* contest prize one year with a photograph that was, indeed, unique and outstanding. He had learned of a potentially unusual photograph, but since it involved wildlife, it was clearly a time-consuming picture to prepare. He had, nevertheless, spent five days awaiting the opportune moment before finally achieving the remarkable photograph.

On another occasion, Stan was bored listening to a friend talk about how difficult it was to raise prize dogs, a statement he challenged, stating he could train a national championship beagle within a year. The challenge was accepted, for a small fiscal consideration, and within one year, Stan's beagle won a national championship, subsequently several national and international championships.

An exceedingly important contribution to his community was his participation with others in the fight to replace the coroner system with a medical examiner system in his home county of Luzerne. Before the fight was won, Stan was urged to run for coroner. At the time, Luzerne County was the third largest county in the state of Pennsylvania by population, and Stan won all the electoral votes of his party during the primaries and all but thirteen of the electoral votes from both parties when the final election took place. He then reorganized the coroner's office, allowing it to evolve into the medical examiner system, thus raising that aspect of medical care to a high level of performance. This experience stimulated Stan's interest in politics and from then until his death he was active in county, state, end national politics in a most constructive way for his community, for his constituents, and for his profession. He served both Republican and Democratic parties depending on which he felt was morally and politically correct at the time, and without any "party loyalties" per se. His loyalties were to the politicians whom he respected and to the people he represented, but clearly they were predominantly to the latter.

A personal aspect to Stan's life was his family, a daughter and an absolutely lovely wife. Mary worked with him as a nurse and partner in all aspects. Other members of their combined families worked with him for many years and a better medical team could never be found. In addition, Stan encouraged bright young men and women in the pursuit of medicine throughout his life, where necessary supporting them morally and even financially to help them reach their appropriate medical careers. One such individual is now chairman of the Department of Surgery at a Texas medical school, and there are many others scattered throughout the country who owe inspiration and support to Stan. Although I shall never feel anything but excitement in considering those medical and scientific discussions I have had with Stan over the years, I must say that it was the family contacts with him, with Mary, and with the rest of his unique, wonderful, and brilliant family for which I will always be grateful. All of us who knew him were fortunate, indeed, as he set standards of excellence that will challenge us always.

Memoir of Wesley D. Thompson, Jr. (1910-76)

By JONATHAN E. RHOADS, M.D.

Dr. Wesley D. Thompson, Jr., a non-resident Fellow of the College of Physicians of Philadelphia, died on March 8, 1976, at the Methodist Hospital in Houston, Texas, following several cardiovascular operations.

Dr. Thompson was born in McKinney, Texas, on March 14, 1910, the son of the late Reverend Wesley D. and Sarah Emma Pearson Thompson. He graduated from Southern Methodist University and attended Tulane University Medical School, graduating in 1932, and came to Philadelphia to serve his internship at the Graduate Hospital of the University of Pennsylvania from 1932 to 1934. From there he went to the Henry Ford Hospital in Detroit for a residency in surgery in 1934-35 and subsequently became a fellow in thoracic surgery at Barnes Hospital, St. Louis, Missouri.

He joined the Department of Surgery at the University of Pennsylvania and engaged in research in the Harrison Department of Surgical Research through the middle thirties. He was certified by the American Board of Surgery in 1940 and was an instructor in surgery at the University of Pennsylvania.

During World War II, Dr. Thompson served as a lieutenant colonel in the U.S. Army Medical Corps and was chief surgeon at the 81st Station Hospital, where he received the Legion of Merit for distinguished service while in the Mediterranean Theater. In 1946 he joined the staff of the Lewistown Hospital and served as chief of surgery from then until his retirement in 1972.

During his period in Philadelphia Dr. Thompson carried out one notable piece of research in the work embodied in a paper, of which he was the senior author, published by himself, Dr. I.S. Ravdin and Dr. Irving Frank in *Archives of Surgery* in 1938. This was the first clear demonstration that protein malnutrition interfered with wound-healing.

While it was generally recognized by clinicians that malnourished patients did not do well, this was a clear demonstration that a dog rendered hypoproteinemic by a low protein diet and repeated plasmapheresis failed to heal his wounds normally. Serum proteins were kept at sub-normal levels, in the range of 3 to 3.5 grams per cent, and fibroplasia was tremendously depressed.

This study had been preceded by a study by Mecray, Barden, and Ravdin, which showed that gastrointestinal motility and particularly the emptying of the stomach through a gastroenterostomy was profoundly delayed by hypoproteinemia; in the course of that study, a wound rupture in the dog had been encountered. The Thompson study represented the exploration and quantitation of that random observation and has been the basis not only of studies in wound healing, but also of numerous studies of the nutrition of surgical patients and of methods for the intravenous administration of protein and calories for patients whose oral intake is impaired or interrupted.

Dr. Thompson married Catharine Gray Bennett, who survives him, and they have three daughters, Mrs. Robert (Bea Ann) Gilfillan of Media, Margaret L. Thompson of Cambridge, Massachusetts, and Elizabeth Dee Thompson of Kabul, Afghanistan. There are two grandchildren, Robert George Gilfillan and Catharine Elizabeth Gilfillan.

Dr. Thompson was a member of the Lewistown United Presbyterian Church and had taught Sunday School for a number of years. He was a member of the Lewistown Masonic Lodge 203, Jaffa Shrine of Altoona, the Lewistown Chapter of the Royal Arch Masons, and Lewistown Commandry of Knights Templar.

He was a past president of Lewistown Rotary Club, a member of the Lewistown Country Club, the Lewistown University Club, Camp Hunter Hunting Club, Mifflin County Century Club of the Republican Party, Lewistown B.P.O. Elks, and Phi Delta Theta and Nu Sigma Nu fraternities.

He also belonged to the Barons of the Magna Carta and the Pennsylvania Society of the Sons of the American Revolution. Dr. Thompson was past president of the Medical-Dental staff at the Lewistown Hospital, a fellow of the American College of Surgeons, a fellow of the International College of Surgeons, and a member of the Mifflin-Juniata County Medical Society and the American Medical Association.

Wesley Thompson was a very warm and friendly colleague. He was an energetic contributor to the many groups of which he was a member, and in addition to the numerous contributions he made to society as a practicing surgeon and community leader, his early research entitles him to a place among the long line of contributors to basic surgical knowledge.

His work with Ravdin and Frank established the basic relationship between protein nutrition and wound healing and provided a firm platform on which many later studies have been erected.

Memoir of Owen Jones Toland (1897-1976)

By ALEXANDER RUSH, M.D.

Owen Jones Toland, M.D., died at his home in Wynnewood, Pennsylvania, at the age of seventy-eight. Death came to "the Doc," as he was known to a legion of friends, after a miserable illness complicating an esophageal diverticulum. Up until his final illness, "the Doc" had been an extraordinarily active man for his years, continuing to ride and hunt with his usual enthusiasm.

The youngest of four brothers, he was born in Philadelphia on January 19, 1897, the son of Edward Dale and Charlotte Rush Toland. Through his mother he was a direct descendent (great-great-grandson) of Dr. Benjamin Rush, the Signer. He attended Haverford School and went on to St. Paul's School in Concord, New Hampshire, from which he graduated in 1915. He is said to have looked back on his four years at St. Paul's as among the best in his life. He was a good student (although a notation on one of his report cards stated: "Able, but idle"), as well as a creditable athlete. He entered the class of 1919 at Princeton, but graduation was delayed while he took time off to serve in France as a volunteer ambulance driver for the American Field Service attached to the French Army, and later with the American Expeditionary Force. Returning to Princeton after the war, he graduated in 1921 and was elected to Phi Beta Kappa.

He received his medical degree from the University of Pennsylvania School of Medicine in 1925. He interned at the Pennsylvania Hospital, where he came under the influence of Dr. Thomas McCrae. Dr. McCrae was a stickler for propriety and received a rude shock when on his first day his fresh young intern removed his white coat, loosened his tie, sat down at the desk in Ward IV and announced cheerily, "I'm ready (for dictation), Doctor, shoot!" The results of this encounter are not recorded. At the Pennsylvania Hospital Owen Toland grew to revere his mentor, Dr. Edmund Piper, professor of obstetrics at the University of Pennsylvania and chief of the "Blue" Service at the Pennsylvania Hospital. They shared a devotion to the profession of medicine and a genuine love for people, all kinds of people, and their feelings were reciprocated. Enthusiasm marked every endeavor of Owen Toland, and was coupled with an ever-refreshing practicality. He disdained "routines" which had outlived their usefulness and delighted in cutting through red tape with humor and charm. Thus he was repeatedly defying the conventional and getting away with it because his judgement was sound and his skill unquestioned.

For twenty-five years Owen Toland was chief of obstetrics at Episcopal Hospital and served on the obstetrical staff at Chestnut Hill, Bryn Mawr, and Philadelphia General Hospitals. He was elected a Fellow of the College of Physicians of Philadelphia in January, 1935, having been proposed by Drs. Edmund Piper and John Flick. In 1952 he was elected a Fellow of the American College of Obstetricians and Gynecologists and served a term as president of the Obstetrical Society of Philadelphia.

Funeral services were held at St. Mary's Church, Ardmore. The church was filled to overflowing by those who came to pay their final respects. The eulogy was given by the Rev. Nelson Thayer, and is a moving tribute to an unusual and warm personality who has

departed from the scene.

A LITANY FOR THE DOC

by Nelson S. T. Thayer

O Lord, our Creator, who breathes in each person his or her unique gifts of personhood, we give thee thanks for thy servant Owen, "the Doc."

For his skilled strong hands which tendered comfort and drew thousands into life itself; we give thee thanks, O Lord.

For his vigorous eyes which loved keenly and with humor; we give thee thanks, O Lord.

For his competitive energy and for his marvelous gift of language; we give thee thanks, O Lord.

For his essential humility, in spite of never having been in the wrong; for the new dimensions he gave to the word "outrageous"; we give thee thanks, O Lord.

For his generous wisdom in counsel, for his steadfastness as a friend, for his devotion as grandfather, father, and husband; we give thee thanks, O Lord.

For his quiet capacity to communicate his caring for those whose lives touched his; we give thee thanks, O Lord.

For this good man, unique among thy creatures, and for the woman who has been every moment his match; we give thee thanks, O Lord.

Amen.

Memoir of Paul D. Zimskind, Jr. (1931-76)

By DAVID M. DAVIS, M.D.

Dr. Paul D. Zimskind, professor of urology and head of the Department at Jefferson Medical College of Thomas Jefferson University, died after a short illness on February 29, 1976.

Paul was born in Trenton, New Jersey, on August 28, 1931. The son of a physician, also a Jefferson graduate, at an early age he decided on medicine as his vocation. He entered Princeton University in 1949, graduating magna cum laude with the degree of Bachelor of Science in 1953. At Jefferson Medical College in Philadelphia, he obtained his medical degree in 1957, followed by internship and residency at Jefferson Hospital. Later, thanks to a National Institutes of Health Research Fellowship and a Markle Scholarship, he did research leading to the degree of Doctor of Philosophy in Physiology in 1964. He continued with research in urodynamics until the death of Professor Theodore Fetter, following which he was elected Nathan Lewis Hatfield Professor of Urology and head of the department at Jefferson in 1967, striking evidence of the respect created at his "home" medical school by his outstanding work.

Paul was quickly accepted and honored by his peers and seniors as shown by membership in the American Urological Association and its mid-Atlantic section, the Philadelphia Urological Society, the Society of University Urologists, the American Association of Genito-Urinary Surgeons, the American Association for the Advancement of Science, the National Research Council, the National Urological Forum, the International Society of Urology. He was also a member of the American Medical Association and its constituent state and county societies, the American College of Surgeons, the College of Physicians of Philadelphia, the Philadelphia Academy of Surgery, and the Medical Club of Philadelphia. He made 43 contributions to the medical literature.

Paul and his wife, the former Gay Mann, had two children, a son, Jeffrey, and a daughter, Wendy, and lived in Penn Valley.

Paul's energy and industry contributed much to urology and would undoubtedly have contributed much more in the future. It is a great pity that the Grim Reaper intervened to cut short this exceptionally promising career.

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A Resident's Approach to Understanding Severe Personality Disorders*

By STEPHAN C. MANN, M.D.†

INTRODUCTION

The middle of my third year of psychiatric residency has come upon me as a time of most welcome contemplative calm. The desperate drive for a final definitive ordering of human behavior has been replaced by an awareness that things do gradually fall into place, and the panic of professional independence is, I hope, at least several months away.

My first year was spent on an inpatient unit where the amorphous psychoses gave birth to passably delineated syndromes founded in hard clinical data and providing a reasonable handle on descriptive psychopathology, prognosis, and treatment. In my second year, I moved to an outpatient clinic where I encountered the winning combination of "good, neurotic patient" and analytically trained supervisor — the world of well-integrated ego and superego, relatively stable and adaptive character structure, and productive therapeutic alliance — the systematic elucidation of dynamic conflict traced to childhood neuroses — the emerging feeling of both understanding and being able to help the patient.

Through both years, however, I became increasingly aware of a large group of patients whom I little understood. They differed clearly from both the psychotics of my first year and the neurotics and the less severe character disorders of my second. Often they bore the diagnosis of "borderline personality disorder." Like many of my fellow residents, I became feverishly intrigued by this term. I vigorously took notes at the presentations on "borderlines" at my first American Psychiatric Association convention. I sought out summary articles such as those of Gunderson and Singer,[1] Eric Pfeiffer,[2] and George Gallahorn,[3] and was in turn led to the works of Helen Deutsch,[4] Hoch and Polatin,[5] Robert Knight,[6,7] and the Grinker *et al.* volume.[8]

I remained confused and unsatisfied, however. Deutsch's accounts were most poignant: " . . . something intangible and undefinable which obtruded and created the impression that something is wrong, something is missing . . . people who were empty shells . . .," but not easily integrated into my nascent dynamic understanding. That some patients presented the quintessence of Hoch and Polatin's entity, characterized by "pan-anxiety," "pan-phobia," and "polymorphously perverse sexuality," seemed indisputable. Yet this model could account for but a limited percentage of the group of patients whom I so poorly understood. Grinker's four bordesline subtypes elegantly described a variety of severely disordered interpersonal transactions, but his concluding remarks — ". . . a confusing combination of psychotic, neurotic and character disturbances with many normal and healthy elements. Although these symptoms are unstable, the syndrome itself as a process is recognizably stable, giving rise to the peculiar term 'stable

*Kenneth E. Appel Award Essay, 1976, presented by Philadelphia County Medical Society, May 19, 1976.

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instability' "— left me trembling.

The enigmatic borderline syndrome! "Empty shells" and "stable instability"! Yet, more frequently than the term borderline, my elusive group bore such labels as infantile, inadequate, antisocial, narcissistic, and chronic acting-out personality disorders. They included patients with histories of severe multiple drug and alcohol abuse, polymorphously perverse sexual trends, and severe impulse neuroses. I sensed that they shared much in common with the patients described by the literature on borderlines, that beneath the disparate descriptive presentations lay a commonality of intrapsychic processes that could provide the basis for the understanding that I so much desired. Yet what this might be continued to elude me.

It seemed that I encountered these patients most frequently in the emergency room. At times they would articulate complaints reminiscent of Deutsch, but more frequently they appeared interested simply in escaping momentary frustrations and discomforts. They came complaining of the unfairness of their environment, with little sense of any personal responsibilities for their difficulties. They came rife with the vestiges of impulsivity: drunk, stuporously drugged, wrists slashed, moaning of depressions, devoid of object loss but smoldering with primitive rage. The response of the junior resident, my response, was quite characteristic - the dumping response, the game of disposition. Hospitalization was to be avoided at all costs. Therapeutically, it was said, this had nothing to offer, and the inevitable drain and ward disruption caused by such patients was ostensibly well known to all. At times, salvation appeared in the form of an available drug or alcohol referral. In general, however, the resident preached the favorite line: "Hospitalization is not what you need. What you need is a firm commitment to out-patient follow-up." His hope was that, if by some act of providence the patient did in fact follow through with the referral, someone more experienced would find some way of getting rid of him in the morning. I suspect that lack of dynamic understanding did as much to prejudice one against such patients as their despicability.

Finally, at the end of my third year, things seemed to begin to fall into place. Several factors were involved. I was exposed to the work of Otto Kernberg, who suggests that "descriptive elements be employed only as presumptive diagnostic signs of borderline personality disorder."[9] The definitive diagnosis depends on characteristic ego pathology, particular specific defensive operations, and a characteristic pathology of internalized object relationships. Additionally, Kernberg suggests that this specific ego pathology is shared by patients of many of the other diagnostic categories that I have mentioned above, e.g., inadequate personality, etc. Characteristic ego pathology was viewed as more fundamental than behavior in understanding these patients. The term borderline now became somewhat demystified for me, and began to merge with the more generic term "severe personality disorder." It was to a degree a question of definition. I was aware that Kernberg does not imply a complete merger and that certainly some authors would view this as far too great an oversimplification. Still, this new and broader concept had much appeal, appearing to provide the much sought after base for understanding that larger group of patients who so perplexed me.

It was also at this time that I undertook psychoanalytically oriented supervised psychotherapy with several "severe personality disorders." It was these experiences that gave life to Kernberg's concepts.

It is the thrust of this paper that supervised

psychoanalytically oriented psychotherapy with a limited number of patients with severe personality disorders can yield the psychiatric resident fringe benefits of exponential proportions in understanding many of the most difficult patients whom he encounters. In what follows, I will attempt to convey some of the significant elements of one such case experience.

CASE HISTORY

Mr. A. was a thirty-nine-year-old, white, separated, twice-married, unemployed business executive who came self-referred with the chief complaint, "I'm depressed again and need to get out of it." One year before, a highly lucrative but rather disreputable business in which he had been engaged for the last ten years came under consumer attack which led to bankruptcy, personal liabilities, and much adverse publicity. He had not been working since that time, stating that he had lost all self-confidence and feared that whatever work he might eventually engage in would not be looked upon as highly as his previous business. He indicated that he was still heavily involved in certain litigations and was living on savings, which were diminishing at an alarming rate. When this crisis first arose, he had entered therapy with a private psychiatrist: he indicated that his desire to change therapists was founded solely in financial considerations.

Three months before our first meeting, his wife of nine years had insisted that he move out of their house, and he was presently living alone in an inexpensive center city hotel. He indicated that he was not at first distressed by this separation. Later, however, upon learning that his wife was dating a man with whom she appeared to be getting quite involved, he became increasingly "depressed over her loss." Hoping that it would rest his mind and eliminate his problems, he took a Caribbean vacation from which he had just returned. When he got off the plane, he was quite disappointed to find that the salutary effects of his vacation were not enduring and that his estranged family was not waiting at the airport to greet him. Apparently he hopped a limousine and came straight to our clinic where he appeared with an enviable tan. He was most disgruntled to learn that we did, in fact, charge a fee.

The patient was the younger of two children (the other was a step-brother eleven years older, from his mother's previous marriage) in an Eastern urban upper-middle-class Jewish family. His father was engaged in a highly lucrative but illegal jukebox and slot machine business. The patient described him as highly "critical, ferocious, and cheap." He described his mother as his "protector and confidante" who consistently interceded in his father's harsh disciplinary efforts. His parents' marital relationship was overtly stormy, characterized by loud altercations, which seemed frequently to lead to his mother's being hospitalized for mental stress. He talked of sensing that a part of him identifies with his father's ferocity, but added "this isn't really me" or "this is only part of me." In any case, he lamented that this ferocious facade had never served his purposes as well as it served those of his father.

He described himself as a tough kid, a bully, always getting into trouble as he was growing up. As a child, he suffered from enuresis and multiple tics. Although obviously quite intelligent, he found school difficult. He was not very studious and seized every opportunity to cut classes in both elementary and high school. During his senior year in high school, he got word that his teachers were going to fail him for all his cuts. He went to the principal and, unbeknownst to his father, told the principal that his father

wanted to make a gift of a jukebox both to the school and to the principal himself upon his graduation. The principal, taken in by this bribe, saw that he passed and even aided him in getting into college. His father never found out about this scheme and the principal said nothing when the jukeboxes were not delivered.

The patient soon flunked out of college, but completed a two-year business program and went to work for his future father-in-law. He married his first wife when he was twenty-one. He described a suspiciously radical transformation in her personality shortly after their marriage. At first a shy, sensitive, intelligent product of a very wealthy family, she turned quickly into a nagging, bitter shrew — a transformation which he was at a loss to explain. He was equally perplexed and wounded by her father's "strange" reluctance to place any funds in his name. The marriage ended after three years, about a year after their only child, a daughter, was born. After the separation, the patient experienced his relationship with his wife as regaining its former intimacy and felt that a reconciliation was imminent. He was, therefore, totally shocked when he learned that one summer weekend his wife had killed their daughter and then herself.

Soon after this incident he moved, became engaged in the above-mentioned business and married his second wife, a divorcee with two children whom the patient never chose to adopt. Once again, a radical change occurred in his wife's personality and things began to sour. They had one child a year after their marriage — a son with dyslexia and "many nervous tendencies." They were separated once about five years before he began therapy, but Mr. A. became very jealous when his wife began seeing other men and "charmed her back." The patient had difficulties maintaining an erection with both wives. During both marriages, he had numerous extramarital affairs, usually one-night stands. Sadistic and masochistic fantasies generally accompanied both masturbation and the heterosexual act.

In early sessions, he talked repeatedly of guilt and depression related to his lost business and family. It was glaringly apparent, however, that his remonstrances contained primarily expression of impotent rage and defeat rather than guilt or shame. He complained bitterly of his wife's refusal to agree to a settlement giving him total possession of the revenue from the sale of their house, so that he could "invest it and insure a more secure future for the entire family." He simply could not appreciate that, among other things, his wife did not in the least bit trust him.

He talked of his eight-year-old son's desire to spend time with him as manipulation — attempts to "get his foot in my door" — showing a complete inability to empathize with his son at any level. In general, he saw other people's motivations only in terms of "what's his angle; everybody's got to have an angle."

With me, he was solicitous beyond bounds. He had nothing but praise for my skill as a therapist. In this therapy, he felt he could finally sense the promise of a new life. I was therefore surprised, to say the least, to learn that he had been seeing his former therapist on the side and was actively planning to change his name and move to another part of the country. He eagerly solicited my advice on this move but was little influenced by my admonition that clearly this would disrupt therapy. He showed definite paranoid trends. On one occasion, when I was forced to leave the office during a session, he revealed that he had been firmly convinced that I had gone out to malevolently reveal his secrets to the authorities.

A month or so into therapy, he exposed, to my surprise, a long history of extensive and

risky petty shoplifting. Following the sale of his house (the proceeds had gone to his wife), he invested a significant portion of the revenue in a luxury car which he felt would give him the confidence to make a new start. He had the greatest difficulty understanding why his wife and the two older children, concerned with college and the future, could not share his delight with this fine new automobile.

Throughout the sessions, he had often talked with glowing admiration of his attorney: "How can a man be so thoughtful, generous, and devoted? How can he be so competent and successful yet modest? He treats me like a son. He does the world for me and for nothing. What's in it for him?" Indeed, while his lawyer seemed both competent and honest, Mr. A. had paid him a sizable fee but for some reason needed to minimize this fact. In our next to last session, Mr. A. informed me that his lawyer had died suddenly. To his bewilderment, he felt no grief: "Where's the grief? Where's the feeling? All that occurs to me is that I really don't think I trusted him. I really don't think he was all that good."

DISCUSSION

As mentioned in the introduction, Otto Kernberg's criteria for diagnosis of borderline personality employ descriptive elements only as presumptive diagnostic signs. The definite diagnosis depends on characteristic ego pathology, specifically the predominance of the mechanism of splitting and related defenses, and a characteristic pathology of internalized object relationships intimately related to these splitting mechanisms. This central term "splitting" refers to a lack of integration within the ego of "good" introjections and identifications with "bad" introjections and identifications, leading to the presence of overly simplistic and primitive "all good" and "all bad" self and object images. Kernberg also includes several types of severe character pathology, e.g., impulse neuroses, addictions, narcissistic personalities, some infantile and most antisocial personalities, as using predominantly this defensive organization. These several types of severe personality disorder are precisely those which he designates as "lo xer level character disorders" — disorders which serve as presumptive signs of underlying borderline organization when occurring in combination with other symptomatic categories in his schema, i.e., anxiety, polysymptomatic, polymorphous perverse sexual trends, the classical prepsychotic personality structures, and impulse neuroses and addictions. Clearly, the distinction between borderline personality and severe personality disorder tends to become blurred and what emerges is a complex of conditions unified by a characteristic ego pathology.

Kernberg states, "For the internalization of object relationships there are two essential tasks that the early ego has to accomplish in rapid succession: (1) the differentiation of self images from object images which form part of early introjections and identifications; (2) the integration of self and object images built up under the influence of libidinal drive derivatives with their corresponding self and object images built up under the influence of aggressive drive derivatives."[9] Essentially, the first task is that of differentiating self from object images while the second task relates to the integration of good and bad introjections and identifications.

In the psychoses, the first task fails and there is a severe defect of the differentiation between self and object images and "regressive refusion of self and object images occurs in the form of primitive merging fantasies, with concomitant blurring of ego boundaries in the area of differentiation

between self and non-self." Kernberg speculates that constitutional defects in the development of the apparatuses of primary ego autonomy interact with excessive frustration of early instinctual oral needs in leading to this lack of differentiation.

In the case of severe personality disorders — borderlines and those with similar ego structures — "it seems probable that the apparatuses of primary autonomy are relatively intact," and that the first task is accomplished. The differentiation of ego boundaries develops and the capacity for reality testing is relatively intact. "However, it appears likely that constitutionally determined lack of anxiety tolerance, and especially severe intensity of aggressive drive derivatives stemming either from a constitutionally determined intensity of aggressive drives or from severe early frustrations leads to a predominance of splitting mechanisms." That is, the second task fails to a great extent and internalized object relations exist autonomously in separate ego compartments. Splitting protects the ego from conflicts by disassociation of introjections and identifications of a strongly conflictual nature preventing diffusion of anxiety throughout the ego. This lack of synthesis has numerous pathological consequences, however. "The need to preserve the good self and good object images and good external objects in the presence of dangerous all bad self and object images leads to a number of subsidiary defensive operations related to splitting." These are projective identification, denial, primitive idealization, and omnipotence and devaluation. I will consider these defenses in my discussion of the case material.

This persistence of split-up "all good" and "all bad" representations has multiple implications in determining the specific pathology of internalized object relationships. The ego's capacity to experience concern and guilt cannot be reached, "since these capacities appear to depend on the existence of a combination of love and aggression toward integrated 'total' objects. . . .The presence of 'all good' and 'all bad' object images interferes seriously with superego development. Primitive forerunners of the superego of a sadistic kind, representing internalized bad object images related to pregenital conflicts, are too overriding to be tolerated and are projected in the form of external bad objects." Over-idealized "all good" images lead to an ego ideal characterized by unrealistic ideals of power, greatness, and perfection. In addition, these distorted superego forerunners distort the perception of the parental images, thus preventing integration.

"Constant projection of 'all bad' self and object images perpetuates a world of dangerous threatening objects against which the 'all good' self images are built up."

"These characteristics of internalized object relations leave the patient with little capacity for realistic evaluation of others and for realistic empathy with others." Relationships are severely infiltrated with pregenital aggression, manifested as demandingness, exploitativeness, and cold tactless manipulation. "In this regard, the tendency to devaluate objects is also relevant. The need to manipulate others corresponds to the defensive need to prevent more primitive paranoid fears connected with the projection of aggressive self and object images from coming to the surface."

Kernberg stresses that while these patients often present as feeling superficially quite insecure and inferior — feelings that may to some degree be realistically founded in their faulty object relations — these feelings of inferiority often reflect defensive structures covering over omnipotent fantasies and blind optimism, founded in their identification with "all good" images and related to their deep

feelings of having the right to exploit and be gratified.

It is the contradictory introjections and identifications that give these patients the "as if" quality. Their lack of an integrated self concept and an integrated and stable concept of total objects in effect leads to Erikson's well-known concept of "identity diffusion."

Kernberg also describes in these patients "a premature development of oedipal strivings resulting from excessive pregenital, especially oral, aggression which leads to a particular pathological condensation between pregenital and genital aims under the overriding influence of aggressive needs. Splitting operations tend to produce a combined and dangerous father-mother image with the result that all sexual relationships are later conceived of as dangerous and aggressively infiltrated."

In keeping with Kernberg's schema, it would seem appropriate to begin analysis of Mr. A's case by scanning the clinical data for presumptive diagnostic signs of borderline personality organization. He clearly presented several of these. His kleptomania falls within the category of impulse neuroses; strong paranoid trends were quite evident; and he exhibited what was unquestionably a "lower level" character disorder. Characterologically, Mr. A. might best be described as a narcissistic personality with prominent antisocial trends.

Ironically, next to the term borderline itself, the term "narcissistic personality" ranks a close second in both intriguing and perplexing the psychiatric resident. Most analysts agree that "narcissistic" as a descriptive term has been much overused of late. Kernberg, Heinz Kohut and others, however, maintain that there exists a group who represent "an almost pure culture of pathological narcissism." Kernberg views the "typical narcissistic personality" as presenting an underlying borderline structure, although he adds they often exhibit "relatively good social functioning, better impulse control and often the capacity for active consistent work in some areas which permits them partially to fulfill their ambitions of attaining admiration and greatness."[9] In considering most narcissistic personalities to be borderline, he differs from some other authors,[10] but this is consistent with his somewhat broader view of the term "borderline." Part two of Kernberg's book did much to demystify this term as well, and helped to elucidate the legendary Kernberg vs. Kohut debate concerning treatment of these individuals.

We should now search for the characteristic ego pathology pointing more definitively to a borderline diagnosis.

In addition to the presence of splitting operations, and characteristic ego pathology derived from these, Kernberg delineates two other characteristic ego impairments in borderlines: (1) non-specific manifestations of ego weakness, which are (a) lack of impulse control, (b) lack of anxiety tolerance, and (c) lack of developed sublimatory channels; and (2) a shift towards primary process thinking.

While his behavior was not as erratic and unpredictable as some severe acting-out character disorders, Mr. A. was at times quite impulsive. The decision to buy his luxury automobile was made literally within minutes of spying it in a showroom window on the way home from settlement on the sale of his house. His island adventure, sexual promiscuity, and precipitous ill-advised move to distant parts are but a few examples in a tapestry of impulsive behavior. Mr. A.'s anxiety tolerance was somewhat difficult to evaluate. In his consistent relating of his problems to external conditions - external conditions that he was incessantly scheming to alter - he often conveyed a typically sociopathic lack of anxiety. However, one sensed a precarious balance, as when he appeared at my office intensely panicked after learning of new

impending litigation which was relatively insignificant in the overall context of his legal situation. At the next session, however, his composure was totally regained as he now "had a plan" which would, he was sure, enable him to dodge the charge. It seemed clear that Mr. A's business had in Kernberg's words served as an important "pseudosublimatory channel." Deprived of this, however, the greater portion of his daily activity pivoted on narcissistic fantasy and the reading of pornographic literature in his barren hotel room.

Kernberg states that, while regression toward primary process thinking tends to appear on projective testing and is "probably still the most important single structural indicator of borderline personality organization," patients with borderline personalities "seldom give evidence in clinical mental status examinations of formal disorders of their thought processes." Other authors[5,6,7] believe that subtle loosening of associations can often be detected in the clinical interview of a borderline patient. Having vainly sought for such a disorder in Mr. A. and other borderline patients, I find Kernberg's observation more appealing. Formal projective testing was never performed on Mr. A.

As noted above, splitting refers to the "active process of keeping apart good and bad introjections and identifications." One direct manifestation of splitting in Mr. A. was his "selective lack of impulse control" in his kleptomania. The ego syntonic quality of such activity is indicative of the above-mentioned compartmentalization. Splitting perhaps was best evinced by Mr. A.'s almost complete division of people into "all good" and "all bad" and the possibility of abrupt shifts from one compartment to the other, as with his two wives, his attorney, and undoubtably with me. Splitting occurred in combination with several related mechanisms.

Primitive idealization "refers to the tendency to see external objects as totally good in order to make sure that they can protect one against the 'bad' objects. . . . It creates unrealistic, all good and powerful objects."[9] The term primitive idealization is contrasted with later forms of idealization, such as that typically present in depressive patients who idealize objects out of guilt over their own aggression toward the object. In primitive idealization, there is no real regard for the object. This mechanism was glaringly visible in Mr. A.'s relationship with his attorney. He evinced a great pride in possession of such a perfect object totally dedicated to his well being. Yet, upon the attorney's death, this idealization was totally withdrawn, the patient stating, "I really don't think he handled things all that well."

Projective identification arises out of an intense need to externalize the "all bad" self and object images. Kernberg suggests that while these patients have sufficient development of ego boundaries to be able to differentiate self and objects in most areas, their ego boundaries are weakened in the area of this externalization. This leads to dangerous retaliatory objects against which the patient has to defend, and which he needs to control and manipulate in order to prevent attack. This mechanism was perhaps most clearly seen in Mr. A.'s suspicions and attempted manipulations of his wife and family. While the ominous consequences of his alleged exposed criminal activities provided realistic threats to Mr. A., I suspect that this mechanism accounted in large part for the Kafkaesque terror which engulfed him when temporarily beset by circumstances beyond his control.

Denial pervaded Mr. A.'s life and can be seen as related to negation of "all bad" elements of his experience. His blind optimism was evidence of this. Clearly, he was

at some level able to see himself as a man of great expectations, driving confidently in his fine car toward a future of insured success. It was also evident that denial enabled him, in spite of all his professed fears, to maintain a deep conviction that he could never really be caught at his criminal activities.

Omnipotence and devaluation are two mechanisms also linked with splitting. Grandiose and omnipotent trends stem from the "all good" compartment and often take the form of the right to expect gratification and homage from others, to be treated as privileged. The devaluation of external objects is in part a corollary of the omnipotence; by comparison with one so grand, other people can have little value. This truly narcissistic pattern permeated all of Mr. A.'s dealings with people.

All of these mechanisms were of course evinced in the transference relationship with Mr. A. Recognizing and dealing with them would have shaped much of the therapeutic effort if he had remained in treatment.

Some of the ways that the persistence of split-up "all good" and "all bad" representations determine a specific pathology of internalized object relationships, and how this in turn is reflected in behavior, were considered above. The uniform lack of internalized "total" objects, and the lack of a clear internalized self concept — identity diffusion — was glaringly apparent in Mr. A. These deficiencies led to his inability to experience guilt, to empathize with others, and to appreciate higher feelings in others, such as altruism and love. Everyone had to have an angle. No one was to be trusted. His demanding, controlling, tactless and patent exploitation can be understood in the context of both an "all good" self image "entitling" him to special privileges and a need to keep control of the environment onto which he had projected his "all bad" internalizations. Conflicts were, to a large degree, not internalized. Feelings, both good and bad, were seen as a reflection of the environment. Conflict was dealt with by fighting the battle with the environment.

With the loss of the narcissistic gratification of his business, Mr. A. grew increasingly dependent on his family, which he had previously disregarded. Inevitably, he grew resentful of his dependency. His inability to trust them led to increasing demands for reassurance and respect. Unable to obtain gratification through empathic identification with his children's success, he became increasingly envious of them. He envied particularly the social and academic successes of the two oldest children. Characteristically, his depression was rooted far more in infantile rage than in mourning. The protective function of "good internal objects," mitigating the normal reactions of failure and loss, was missing.

Finally, it is worth considering in Mr. A. the "pathological condensation of pregenital and genital aims" mentioned above. "In order to escape from oral rage, premature genital strivings take place."[9] In Mr. A.'s case, one can speculate that this escape failed since "oedipal fears and prohibitions against sexual impulses towards his mother were powerfully reinforced by pregenital fears and a typical image of a dangerous castrating mother developed." We can speculate that Mr. A.'s exploitativeness and promiscuous relations with women represented, in part, an unconscious attempt to seek revenge against the oral, frustrating mother.

SUMMARY

This case was analyzed first in terms of descriptive elements pointing to an underlying ego structure characterized by the presence of defensive functions and internalized object relations related to splitting mechanisms. These ego

characteristics were then identified. The patient could then be diagnosed as a borderline personality, employing Kernberg's schema. Employment of splitting mechanisms characterizes the great majority of severe personality disorders. In this sense, the terms severe personality disorder and borderline blend to a large degree in this formulation — a formulation which helped me to integrate my observations of this case with other parts of the borderline literature, and to apply the integrated knowledge to understanding a large number of severe personality disorders whom I had encountered more briefly.

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The Diary of Jonathan Potts: A Quaker Medical Student in Edinburgh (1766-67)

By RICHARD L. BLANCO*

During the late eighteenth century, a steady stream of gifted American medical students journeyed across the Atlantic to study in Europe. Benjamin Rush (1745-1813), the most prominent physician in the United States during the Federalist era, recorded his educational experiences in Scotland, where he completed his medical training at the University of Edinburgh. His companion on the ocean voyage and in the northern capital was Jonathan Potts (1745-81). Although Potts never attained the acclaim bestowed upon Rush for his achievements in medicine and in politics, Potts was also a legislator, and, like Rush, he too served with the Continental Army. Yet in contrast to Rush, whose accomplishments have been amply documented, little information is available about Potts, a reticent Quaker doctor who played a major role in the development of military medicine during the American Revolution. Only sparse data about Potts' personal life exist, and the lack of printed information about his official career has discouraged potential biographers.[1] Fortunately, the *Diary* of Jonathan Potts, written during six months of his college days, provides some insight into the contemporary state of medical education, the trans-Atlantic community of the Society of Friends, and the mentality of a scholarly Philadelphian who strove to heal the sick.

The seventh child of John Potts (1710-68), a wealthy iron-master, Jonathan was born on April 11, 1745, at Popodick, Colebrookdale, in the future Berks County of Pennsylvania.[2] His Quaker father, who had inherited a flourishing frontier enterprise consisting of farms, forges, furnaces, and vast acreage in the wilderness, enlarged the family business to become a successful entrepreneur. When Jonathan was seven years of age, John Potts moved his family to a new stone mansion built at the junction of Manatawny Creek and the Schuylkill River that was named "Potts Grove Manor." Here, John Potts supervised the manufacture of pig iron and bar iron. In addition to his mining and forging interests, he invested in banks, breweries, saw and grain mills, and in so much real estate that he virtually dominated the semi-feudal economy of the Manatawny region. In fact, the village of Potts Grove became a "company town" complete with farms, orchards, livestock, stores, churches, and taverns. With slaves and indentured servants laboring on his estate, Potts epitomized a colonial planter who furnished his imposing home with an elegance to match that of stately mansions in Philadelphia. Thus, the nine sons and four daughters of John Potts were raised in comfortable circumstances and were destined for prominence in American society.[3]

To educate his youngsters, John Potts hired six tutors over the years beginning in 1745, and in 1759 he built a school in Potts Grove. Jonathan apparently first attended an elementary school at nearby Ephrata that was sponsored by the Seventh Day Baptists. The young lad then received additional training from the salaried teachers at home, one of whom was Robert Proud (1728-1823), a

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British Quaker schoolmaster who became a historian of Pennsylvania. Like his three older brothers, Jonathan probably attended the Academy in Philadelphia for an indeterminable period, where he mastered a classical curriculum, learned to read Latin and Greek, and acquired a smattering of science and mathematics.

The factors that influenced Jonathan to pursue medicine are unknown. Five of his brothers joined their father's business or mercantile firms in Philadelphia; only John Potts, Jr., followed the professional career of a lawyer. Perhaps Jonathan's inclination to study medicine came from his contacts with the kindly Dr. Phineas Bond (1713-73), one of Philadelphia's leading physicians and the younger brother of the more famous Dr. Thomas Bond (1712-84). Phineas Bond, a Quaker from Maryland, had studied medicine in five European cities and joined his brother in partnership during the late 1740s. The Bonds were active in municipal health activities, such as inspecting shiploads of immigrants arriving at the port,[4] and they were both active in numerous philanthropic undertakings. Phineas was a founder of the American Philosophical Society and a trustee of the Academy of Philadelphia, and served on the staff of the Pennsylvania Hospital. Furthermore, Bond was a member of the Sons of the Society of St. George and of the Hand and Hand Fire Company, and he contributed to the foundation of a medical library. From 1747 on, he was a common councilor for Philadelphia.[5] The Bond brothers had a busy practice, and they had many city notables among their patients, such as Benjamin Chew, Samuel Wharton, and Benjamin Franklin.[6] Apparently, Phineas was a very affable man who lived in the shadow of his more talented brother. Yet, as Dr. Caspar Wistar (1760-1818) wrote in 1818: ". . . no medical man in Pennsylvania ever left behind him a higher character for professional sagacity and the amiable qualities of the heart."[7] How frequently Bond traveled to outlying districts is difficult to determine, but from December, 1762, on, according to his ledgers, he may have visited Potts Grove. Dr. Phineas Bond, therefore, possibly influenced Jonathan to study medicine under his guidance.

Probably, Jonathan began his five year apprenticeship at the age of sixteen with Dr. Bond in 1761 but no trace of their contract remains. For a fee of about 50 to 100 pounds, the preceptor in colonial America agreed to teach his pupil the art and mystery of his craft. In turn, the apprentice was to serve his master faithfully. Furthermore, as the typical indenture read: "He shall not commit Fornication, nor contract Matrimony, within the said Term. At Cards Dice, or any unlawful Game he shall not play . . . He shall not absent himself Day nor Night from his said Master's Service . . .; nor Haunt Ale-Houses, or Play-Houses . . ."[8] Along with medical instruction, the master provided his assistant with meat, drink, lodging, and washing. At the end of a successful apprenticeship, the preceptor provided his helper with a certificate of service and proficiency that could be registered in a court of record, which attested that the apprentice was qualified to practice. Sometimes the master gave the new practitioner a small medical library and a set of pocket instruments. Through this close personal relationship, therefore, the master physician received cheap labor, and the apprentice, if he were bright and industrious, learned something about medicine and pharmacy.

Jonathan probably performed numerous menial tasks during his apprenticeship such as running errands, sweeping the consulting room, cleaning bottles and equipment, cultivating his master's herb garden, and tearing old sheets into bandages. Much of Jonathan's time must have been occupied in

mixing ointments and in compounding drugs in Bond's apothecary shop at the Sign of the Golden Mortar on Second Street.[9] After he acquired the rudiments of medical lore, Potts probably accompanied his master as an orderly; presumably he also treated wounds, cupped and bled patients, made entries in the account book, and held instruments during operations. If Jonathan were lucky, Dr. Bond might have a skeleton or an anatomical chart in his office for the youth to study, and perhaps young Potts witnessed the occasional dissection of a cadaver. Somehow, during this toil, an apprentice found time to read the medical classics and to pore over the lecture notes taken by his preceptor at European universities. Such training was both grueling and exhilarating, implied Benjamin Rush, a graduate of the College of New Jersey and an apprentice to Dr. John Redman (1722-88), the leading physician of Philadelphia:

> During this period I was absent from his business but eleven days, and never spent more than three evenings out of his house. . . . In addition to preparing and compounding of medicines, visiting the sick and performing many little offices of a nurse to them, I took exclusive charge of his books and accounts. . . . I read in the intervals of my business and at late and early hours, all the books in medicine that were put into my hands, that I could borrow from other students of medicine in the city.[10]

Potts and Rush were capable apprentices, for on December 28, 1765, they were permitted to attend the Pennsylvania Hospital. For a fee of eight pounds and two shillings (used to purchase medicines and medical books for the Hospital), and a certificate of recommendation from their preceptors, the young men were authorized by the Board of Managers to accompany staff physicians on rounds of the wards.[11] A hospital student usually assisted his master as he treated his own patients, but normally pupils were privileged to observe the bedside practice and the operative techniques of their preceptor's colleagues. Now Potts witnessed maladies on a wider scale than in Dr. Bond's office, or on numerous house calls with his master. Over 450 patients were treated yearly in the Hospital for numerous afflictions: lunacy, cancer, gall stones, eye infections, epilepsy, consumption, "palsy," "drunken madness," "scorbutic ulcers," broken limbs, ruptures, dislocated bones, venereal disease, etc.[12] Furthermore, since November, 1762, Potts had the opportunity to attend lectures on anatomy held in the private school of Dr. William Shippen, Jr. (1736-1808), a graduate of the University of Edinburgh. And in February, 1765, the versatile Shippen offered classes on midwifery, the first course in obstetrics presented in North America. However unsophisticated such medical education may now seem, an apprenticeship under a diligent physician and with the experience of hospital attendance was valuable preparation. But preceptorial tutelage did not provide for a systematic curriculum with formal lectures, nor the diverse viewpoints of a university faculty, nor the necessary foundation in botany, chemistry and related courses. Furthermore, no physician in Philadelphia before November, 1766, offered classes in clinical medicine. Yet opportunities for more professional training were underway. In May, 1765, Dr. John Morgan (1735-89), another Edinburgh graduate, proposed to the trustees of the College of Philadelphia that a medical school be established, modeled upon the University of Edinburgh. As a result, in November, Shippen became formally affiliated with the College as professor of anatomy, and Morgan became professor of materia medica. These two courses in early 1766 (supplemented by Thomas Bond's clinical lectures in November, 1766, by Adam Kuhn's botany classes in 1768, and by Rush's chemistry course in 1769) constituted the modest curriculum of the embryonic medical school.[13]

By the summer of 1766, Potts had acquired a grounding in the liberal arts and training in the essentials of medicine. The lectures of Shippen and Morgan that he had attended, and the textbooks that he had mastered, provided him with a basic philosophical approach to medicine. His year and a half in the Hospital gave him practical experience in dealing with disease and with problems of patients. He had witnessed obstetrical cases and anatomical dissections, and he could deal with a variety of illnesses. He had probably assisted in amputations, in cutting for gall stones, removing external tumors, and repairing hernias. The training that Potts had received was the best offered in America, but it was inferior to the level of medical instruction provided in Western Europe.

Potts could have terminated his medical training at this point in his career, for his professional education was far superior to that of the typical practitioner in America. Most so-called "Doctors" had little formal education, they had not witnessed dissections, nor had they even attended medical lectures. In an era when medical registers were unavailable, when North American colleges had yet to confer medical degrees, when licensing standards and professional regulatory bodies for medicine were non-existent, and when only a few laws regulating the practice of medicine had been enacted,[14] it was easy for "quacks," for the unscrupulous, and especially for ill-trained apprentices to advertise themselves to a gullible public as qualified. In fact, out of 3,500 physicians in the colonies in 1775, only 400 had actually attended medical school.

But medical students like Potts and Rush sought superior training, additional theoretical background, and the cultural opportunities that were not available in the fledgling medical school in Philadelphia. They sought a European university that offered a regular course of medicine, one which granted a diploma that would certify to their professional talents. The path over the Atlantic to Europe had been charted by Morgan, Shippen, Redman, the Bonds, and other Philadelphia physicians who had received their advanced training at Paris, Reims, Leyden, or Edinburgh. Dr. William Shippen, the elder, remarked that his son, William Shippen, Jr., had an American college education, that he had studied medicine under his own supervision and had witnessed the practice of eminent doctors in the area. "But for want of that variety of operations and those frequent dissections which are common in older countries," the older Shippen explained, "I must send him to Europe. His scheme is to gain all the knowledge he can in anatomy, physics and surgery."[15]

Usually the theoretical study in lecture halls was concluded with, or preceded by, a period of practical work in London where in the four hospitals of the metropolis, pupils had abundant opportunities to attend clinical lectures and to learn technical procedures that were relatively unknown in America. While in London, the budding physicians usually attended the demonstrations of William Hunter (1718-83), the foremost physiological anatomist of the day, at his private school at Covent Garden, or they listened to the advice of Dr. Colin McKenzie (d. 1775), the famous man mid-wife, at his "lying-in" hospital on Crucifix Lane. Perhaps, like Morgan and Shippen, they would be invited to the chambers of the renowned Sir John Pringle (1702-82) to hear him expound on principles of military hygiene acquired during the Seven Years War.

For traditional classroom instruction, however, Edinburgh had the greatest attraction for American medical students. Since 1730, the medical curriculum there had undergone numerous innovations led by a faculty trained in Leyden by Herman

Boerhaave (1688-1738), the greatest medical teacher of the century. Edinburgh, "the Athens of the North," was a lively cosmopolitan center, and medicine was taught here as a systematic science probably better than at any other European institution. Due to a common citizenship, the lack of language difficulties, the preeminence of the northern capital as a fountainhead of ideas, Americans tended to matriculate at Edinburgh. Beginning in 1749 when John Moultrie of South Carolina took his diploma at the northern capital, over 100 Americans graduated from Edinburgh by 1800 with the medical degree, and perhaps another 1,000 studied there for brief periods. By 1771, of the 33 Americans who held the prized Edinburgh degree in medicine, nine were Pennsylvanians. With a medical degree from the Scottish University, Potts and Rush realized that they would possess an enviable academic distinction that might guarantee their professional success. For a Quaker like Potts (Rush was a Presbyterian), Edinburgh offered an additional advantage, for the Test Act, which barred dissenters from matriculating at English universities, was not enforced in Scotland.

With recommendations from their preceptors and professors and with letters on the way from influential countrymen to Benjamin Franklin (who had resided in London since 1764 as agent for the Pennsylvania Assembly), Potts and Rush prepared for their great adventure. Yet just before Potts departed for England in the summer of 1766, he made a decision that would significantly alter his professional career. He became engaged to Grace Richardson (b. 1745), a Quaker belle of Chester and a niece of Joseph Richardson, Philadelphia's famous goldsmith. Grace agreed to wait for her fiancé until he returned from overseas with the coveted medical degree.

Their farewells made and their trunks packed, Potts and Rush sailed on August 31 aboard the *Friendship* for Liverpool. As Potts described the momentous event on the first page of his small journal: "I was accompanied by a great number of my Friends. We purchased our stock at Reedy Island and left the (Delaware) Capes that evening."[16] While contemplating the splendid undertaking before them, the young men were apprehensive about the dangerous Atlantic crossing. Writing to a friend on September 2 from Cape Henlopen, where letters were dropped to a pilot boat, Rush wrote that "the Bay is rough and the bellows swell considerably, but as yet have produced no seasickness in my stomach. But oh! I dread tomorrow."[17] Potts soon became very ill. Explaining that his malady was caused by "the motion of the Intestines occasioned by the motion of the ship," he added: "I was excessive(ly) sick but was treated with the greatest compassion and tenderness by my good friend . . . Mr. Benjamin Rush."[18]

To add to their misery, the vessel encountered violent storms that terrified the youths. On September 19, Rush remarked: "The seas raged and roared in a most terrible manner. . . . Nothing would equal ye terror (that) was impressed upon my mind. All the idea I have ever formed of a storm at sea were far short of what my Eyes now beheld."[19] And in a graphic passage, Potts also described the sheer panic that he experienced: "The Gales were so violent that we could not carry a Rag of Sail but lay too (sic) under our bear (sic) Poles expecting every moment would be our last as the Sea broke all over."[20] As huge waves inundated the frail craft, Potts recorded that "we cried out to ye Lord in our distress and he delivered us out of our trouble." In a letter written later to his brother Joseph, Jonathan commented about his "wonderful deliverance," and that a Divine hand had saved him. "It is to Him alone," he

declared with new-found religious fervor, that "I look for succor."[21]

After a perilous sailing along the treacherous Irish shoreline, and near shipwreck at Holyhead off the coast of Wales, the *Friendship* arrived on October 21 at Liverpool. The two companions spent a week touring the bustling port, and they visited the dockyards, the infirmary, the charity school, the salt works, and the glass and china factories. Liverpool's notorious slave ships anchored in the harbor, stated Rush, symbolized an "inhuman practice."[22]

Needing an entrée into local society, Potts, like American Quakers before him in England, ingratiated himself into a local meeting that was part of the trans-Atlantic network of the Society of Friends that stretched over the ocean. With a letter of introduction from John Pemberton (1737-95), the clerk of the Philadelphia Yearly Meeting who had twice toured England, Potts called upon John Scott, a Quaker merchant in Liverpool. The Englishman accompanied Potts to neighboring Warrington in order to meet Samuel Fothergill (1715-72), one of the most distinguished preachers of the era. On his trip through America in the 1750s, Fothergill had visited far-flung Quaker communities from Georgia to Massachusetts, and he had many admirers in Pennsylvania. Widely acclaimed for his evangelical oratory, Fothergill was a major link in the hierarchy of Quakerdom. Potts attended the meeting in Warrington, and was duly impressed with Fothergill's "most excellent sermon."[23] Anxious to assist the young American, Fothergill provided Potts with a note to his brother in London, the famed Dr. John Fothergill (1712-80), a renowned internist and botanist, and the chief correspondent of the London Friends Yearly Meeting to the Philadelphia Yearly Meeting. Samuel Fothergill supplied Jonathan with another important contact, that of William Miller, a prominent Quaker businessman in Edinburgh.

Anxious to begin their studies, Potts and Rush left Liverpool by coach on October 31 for the trip northward. They traveled through Lancashire, Westmoreland, and Cumberland without mishap, and they commented in their journals about quaint towns, imposing castles, the state of taverns, and the kindness of strangers. At first, Potts was dismayed with his impression of Scotland. After passing through a dreary area near Selkirk on November 4, he lamented that the country was "perhaps the most dismal in all the world, being nothing but Mountains and Rocks in which the inhabitants are a kind of centaurs as Men and Brute live together."[24] At one isolated place on their journey, the young men spent the night in a dirty cottage. To avoid being pestered by insects, Rush remarked that they kept on their coats in bed. "But our precautions did not avail," Rush chuckled, "for poor Mr. Potts the next day enjoyed much the Royal pleasure of scratching himself."[25] Rush's statement probably accounts for a notation by Potts that he had spent a sleepless night, and that he repented "ever entering the House at all."[26]

Arriving in Edinburgh on November 3, too late for the introductory lectures, Potts and Rush busied themselves in finding lodgings together, and in presenting themselves to various physicians of the city: Sir Alexander Dick (1703-85), president of the Royal College of Physicians, William Cullen (1710-90), the great medical oracle of Scotland who inspired generations of students, as well as David Clerk and Colin Drummond, physicians-in-ordinary since 1751 at the Royal Infirmary. Potts presented a letter to Dr. Dick from John Morgan which stated that he had advised the young men to study at Edinburgh. Potts and Rush, continued Morgan, "did me the pleasure of attending my Lectures with an assiduity that marks out the

progress they will undoubtedly make in Physic under the Tuition of some of the ablest Instructors in the World, the Professors at Edinburgh."[27]

To facilitate their way into the ranks of Edinburgh's intellectual elite, Potts and Rush had solicited influential Pennsylvanians to write to Benjamin Franklin on their behalf. Franklin had assisted so many of his young countrymen in Europe with counsel that they were termed his "American children." Philadelphians such as Samuel Wharton (1732-1800), the land speculator, Joseph Galloway (1731-1803), the speaker of the Assembly and Franklin's closest political adviser, and Charles Thomson (1729-1824), the former master of the Penn Charter School and now the bitter opponent of the Stamp Act, all communicated with Franklin to praise the talents of the two youths.[28] But Franklin's all-important letters of introduction to his contacts in Edinburgh were delayed, and both Potts and Rush became impatient. The two had already written from Liverpool in late October to request Franklin for assistance and to remind him, tactfully, how important his letters were to strangers in Europe. By December 10, Franklin's notes had still not arrived, so Potts again wrote to the Pennsylvania savant, "that as I am somewhat apprehensive you have not received these letters (from Philadelphia) I have taken the liberty to repeat my request, as I find since my arrival that letters from you in our favour will be of infinite services to us."[29] But the wise Franklin, always solicitous about promising young Americans overseas, had already corresponded in December with Dick, Cullen, and William Robertson (1721-93), the noted historian and principal of the University.[30] In addition, Franklin offered some advice to his new found protégés. Study hard, he urged, and "refrain from all idle, useless amusements. . . ." Explaining to Potts and Rush that they were fortunate to study with illustrious men, Franklin advised them to be "circumspect in your behaviour at Edinburgh (where people are very shrewd and observing). . . "[31]

Heeding Franklin's advice, the youths had already plunged into their work. Although classes had commenced in late October, they were able to purchase tickets of admission. Their professors were William Black (1728-99) in chemistry, John Hope (1725-86) in botany, John Gregory (1724-73) in practice of medicine, Alexander Monro, *secundus,* (1733-1817) in anatomy, James Russell (d. 1773) in natural philosophy, i.e., physics, and Cullen in institutes of medicine, i.e., pathology and physiology. The Americans found their mornings were occupied with lectures generally delivered at a rapid pace and that their afternoons and evenings were devoted to revising their lecture notes. Potts and Rush also attended clinical demonstrations at the Royal Infirmary. Writing to a Princeton classmate, Rush described the excitement of being in Edinburgh where "the theory of physic is like our dress always changing." Proclaiming that "the present era will be famous for a revolution in physic," Rush added, "The old doctrines of the blood, nerves, etc. are now exploded, and much more rational ones are substituted in their room."[32] Likewise glorifying in the exciting intellectual milieu of the northern capital, Potts wrote home on January 20, 1767:

> I have been constantly employed in attending the college, where I daily receive new improvements in Medical knowledge, and hope to return to my native land answering the expectations of all my Friends, with the character of a good physician, and what I prefer to everything else, the character of a good man.[33]

Yet living in Edinburgh had its problems. If Potts appreciated the picturesque views of the

ancient walled city — the grim castle on its rocky heights, Arthur's Seat, Salisbury Crag — he neglected to mention them. The city was congested, its lanes were filthy, and sanitary arrangements were crude. To add to the dirt and stench, dwellers of high-storied tenements nightly heaved out their refuse to the streets below for the morning trash collection. Rush slyly remarked that unwary visitors who walked the pavement at night sometimes gained the dubious distinction of being "naturalized," as he put it, by garbage thrown upon them. "As yet I have happily escaped. . . but my unfortunate friend Potts had gained the honor before me."[34] Regardless of the environmental problems of the throbbing metropolis, however, Potts admitted that "the want of beauty and loneliness . . . is full compensated for the great kindness of the inhabitants."[35]

Potts' social life in the city revolved around the Edinburgh Meeting of Friends. The group consisted of twenty members led by William Miller (1694-1757) for the men and Mollison Strettle, his mother-in-law, for the women. Miller, the local "King of the Quakers," was a horticulturist with a prosperous nursery business. His home was the meeting place for the Friends' bi-weekly meetings which were devoted to long periods of intense personal meditation undisturbed by any preaching. Typical of the deep introspection that characterized the earnest moral exercise of the Quakers, Potts remarked that during his three months attendance at these gatherings, he had not heard "a word externally . . . (but) it has been quite otherward inwardly, where the never failing teacher is ready and willing to teach all those who diligently and faithfully attend to his word." Contrasting these silent devotional periods with the more formal assemblies of Quakers in Philadelphia, Potts remarked that "I really believe that there is more Life and heartfelt religion in the silent meeting at Edinburgh than in the Meetings of the highly-favored people of Philadelphia..." So fervent was his religious enthusiasm since his terrifying ship-board experience with the awesome powers of nature, that Potts refrained from attending plays, dances, and concerts. "That my dress might correspond with my action," he explained to his brother, "I have taken off my ruffles, and untied my hair, and am not ashamed to use the plain language to the greatest man in Edinburgh."[36]

Absorbed in his medical studies and in his religious obligations, Potts still thought constantly of the girl left behind: "My dear Gracey. . . the partner of all my pleasures as well as sorrows." "Tell her," he requested his brother, "my love for her is stronger than ever, and that I never knew the value of her good company until I was deprived of it."[37]

Then suddenly Potts' activities in Edinburgh were interrupted by dramatic news from home about his fiancée. On February 1, 1767, Rush recorded that he had just bade farewell to Jonathan who had left hurriedly for London. "His sudden and unexpected departure," Rush noted, "was owing to some letters which he received from his Friends desiring his immediate return to a young lady to whom he was engaged, who was greatly indisposed upon his Accnt."[38]

No indication of Potts' inner turmoil is indicated in his commonplace description of the countryside that he observed on his coach journey southward. Yet one clue to the mental strain that he endured is apparent when Potts pondered the educational opportunities that he had lost at Edinburgh. As Jonathan admitted to himself: "I prefer (Grace's) welfare and peace to all the vain pleasures and satisfactions I expected to receive . . . at Edinburgh where I must confess I had every advantage possible from study under so great Masters as the Professors in the College."[39] Writing in his journal on February 1, 1767, at the Pennsylvania Coffee House near Fleet Street in London, Potts reminded himself

that when he returned home, "I am to act submissively to my parents . . . but they are by no means to reproach me much less my ever Dearly. . . ." Although Potts believed that he had lost "all prospects of rising in life," yet he was comforted by the hope that he had not lost his father's "patronage."[40]

Potts was unable to catch the *Pennsylvania Packet,* which had sailed just before he arrived in London, and, consequently, he had to wait another three weeks for a vessel bound for the Delaware. In the meantime, he was delighted to receive a certificate from the Edinburgh Friends addressed to Friends in Philadelphia. Pointing out that Jonathan had faithfully attended their meetings for three months, the seventeen signatories to the letter attested that "his Deportment . . . was conspicuous and admirable . . . and his whole conduct truly sober and circumspect." Regretting his sudden departure, the Quakers in the northern capital hoped that "it may please Providence to carry him safe back to his native land."[41] Delighted with the statement about his conduct, Potts responded to the Edinburgh Friends by hoping that an "outward Preacher" would emerge from their ranks to guide them. "I firmly believe," Potts stated, "the Lord will in his own due and appointed time, raise up among you as He shall think most properly qualified for that high and noble office."[42]

Probably in order to purchase his passage home and to buy various articles for his new household, on February 7, 1767, Jonathan borrowed 70 pounds from Deborah Franklin, Franklin's wife.[43] With part of the money Potts bought a Bible, surgical instruments, a pharmacopoeia, and books written by Alexander Monro, Robert Whytt, Thomas Sydenham, Pringle, and Linnaeus. In preparation for his new domestic life, he purchased a tankard, a punch ladle, tableware, kitchen utensils, and "a Drinking Cup with two handles." Among the other items that he took home were a garnet necklace, "a cup to warm children's victuals ... (and) a Sewing Case for my Wife."[44]

Potts sailed from England on March 5 on a voyage that ordinarily took seven or eight weeks, but the date of his arrival in America is unknown. Certainly he appeared at home too late for the birth of his daughter Mary Francis on April 4, 1767. On May 5, the marriage ceremony with Grace Richardson was held at the home of Thomas Rutter, a Quaker, and Justice of the Peace in Berks County.[45] Eleven members of the Potts and Rutter families attended the event, but no Richardson relatives were present. Thus, his promising career in Edinburgh terminated, Potts married the woman he loved, who bore him six more children. Writing in July, 1768 from Edinburgh where he had earned his prized medical degree in June, Rush confided to a friend in London about Jonathan's young family:

> My friend Jon. Potts tells me in his last letter that his wife was safely delivered of a son on the 18th of last May which he says he intends to call Benjamin after me but I suspect it is after Dr. Franklin. I cannot help smiling every time I think of Jonathan being so early the father of two children. May he enjoy happiness in them![46]

The development of Jonathan Potts' career after his marriage is beyond the scope of this essay, but it should be noted that even without the Edinburgh degree, Potts, in his relatively short life, made an impressive record. Soon after his return to Pennsylvania, he enrolled at the medical school of the College of Philadelphia. In June, 1768, Potts was one of the first ten graduates to receive the degree of Bachelor of Medicine, and at the commencement, he delivered the valedictory address.[47] Soon after, he became a member of the American Philosophical Society. After practicing three years, and after writing a dissertation in Latin about malaria, he was granted his doctorate in medicine in June,

1771, from the College of Philadelphia. Establishing his practice and an apothecary shop in Reading, Potts became active in politics. He served in 1774 as secretary to local Committees of Correspondence, as a delegate from Berks County to the Provincial Meeting of Deputies in July, 1774, and as a representative to the Provincial Congress that met in Philadelphia in January, 1775. An ardent patriot, Potts marched as a company surgeon with the first battalion of Pennsylvania riflemen in July, 1775 to the siege of Boston. In March, 1776, Potts was appointed deputy-director of hospitals for the Northern Department, and he served in this capacity at Fort Ticonderoga. In December, 1776, while home on leave, he joined the militia assembling under General George Washington at Trenton, and in January, 1777, he assisted Rush in treating the wounded at the bloody battle of Princeton. Later that year, Potts supervised the evacuation of casualties at Saratoga, and he won the praise of General Horatio Gates and the Continental Congress for his work. His most impressive achievement was as director-general of the Middle Department (1778-80), when, under incredible obstacles, he supervised a dozen military hospitals. Although ample documentation about his army career exists, not a letter written by him after 1767 survives which reveals his intimate thoughts. For this reason, the *Diary* of Jonathan Potts is particularly significant, because it is the only personal account available by this dedicated Quaker student who won fame as a physician for his humanitarian treatment of sick and wounded troops during the American Revolutionary War.[48]

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3. McCurdy, Linda. *The Potts Family Iron Industry in the Schuylkill Valley*. Pottstown: The Pottstown Historical Society, 1975.

4. Five letters of the Bond brothers concerning their examinations of ship passengers are in the Gilbert Collection of Miscellaneous Letters, Library of the College of Physicians of Philadelphia, pp. 221-231.

5. Morton, T. G. 1897. *The History of the Pennsylvania Hospital, 1751-1887,* Philadelphia: Times Printing House, p. 488; and James Thacher, *American Medical Biography,* Boston: Richardson and Lord, 1828, p. 178. (Sometime in the 1750s Phineas Bond became an Anglican).

6. Co-partnership ledgers of Thomas Bond and Phineas Bond, 5 volumes, 1751-1764. The Historical Society of Pennsylvania. (Hereafter cited as HSP.)

7. "State of Medicine from the first Settlement of Pennsylvania, to the year, 1762," *The Eclectic Repertory and Analytical Review,* 7:273-277, 1818.

8. Although I have been unable to find a medical apprentice's contract, I have tried to reconstruct what may have been a typical one from: Wyndham B. Blanton, *Medicine in Virginia in the Eighteenth Century* (Richmond: Garrett and Massie), pp. 77-78; Morton, *op. cit.,* p. 481 (an apothecary's indenture, 1766); and a cordwainer's indenture (which is almost identical to the apothecary apprentice's contract) in Indentures of Apprentices, Society Miscellaneous Collections, HSP; and from J. William Frost, *The Quaker Family in Colonial America* (New York: St. Martin's Press, 1973), p. 138.

9. An advertisement for Phineas Bond's apothecary shop is in the *Pennsylvania Gazette*, July 3, 1740, p. 3. Possibly the name may have changed by the 1760s.

10. CORNER, G. W., ed. 1948. *The Autobiography of Benjamin Rush*. Princeton: Princeton University Press, p. 38.

11. Minutes of the Managers of the Pennsylvania Hospital, 1764-69, p. 159. Pennsylvania Hospital Historical Library. Potts was mentioned as Bond's apprentice, Rush as Redman's, and Jonathan Ellmore (sic) and Nathaniel Manning were sponsored by a Dr. McCane.

12. *Ibid.*, pp. 205-229.

13. I have extracted much information about medicine in Philadelphia and in Edinburgh from George W. Corner, *Two Centuries of Medicine. A History of the School of Medicine, University of Pennsylvania* (Philadelphia and Montreal: J.P. Lippincott, 1965), pp. 1-31; Betsy Copping Corner, *William Shippen Jr. Pioneer in American Medical Education* (Philadelphia: The American Philosopical Society, 1951); Whitfield Bell, Jr., *John Morgan: Continental Doctor* (Philadelphia: University of Pennsylvania, 1965), pp. 18-169, and *The Colonial Physician and Other Essays* (New York: Science History Publications, 1975).

14. Quarantine regulations for typhus, smallpox, and yellow fever were generally enforced in the colonies; Virginia had a fee bill since 1736, and New Jersey in 1772 required that practitioners have the rudiments of an education.

15. WATSON, J. F. 1898., *Annals of Philadelphia*. Philadelphia: Edwin S. Stuart, 3 vols. Vol. 2, p. 378.

16. *Diary* of Jonathan Potts. Private collection at Potts Grove Manor, Pottstown Pennsylvania. (Hereafter cited as *Diary*).

17. BUTTERFIELD, L. H. 1950. *The Letters of Benjamin Rush*. Princeton: Princeton University Press. 2 vols. Vol. 1, p. 26. Probably, Rush would have sailed to England a year earlier except for the reasons he explained to a close friend on May 26, 1765: "I am not going to London this summer according to my former expectations, but have postponed it till the following summer, in hope by hard study and longer attendance on the practice of physic to fit myself to make a figure in Europe and be of much more use to society when I return." (Vol. 1, p. 14).

18. *Diary*.

19. RUSH, BENJAMIN *Journal Commencing August 31, 1766*, p. 3. Lilly Library, Indiana University, Bloomington, Indiana. (Hereafter cited as Rush *Journal*).

20. *Diary*.

21. James, p. 176.

22. Rush *Journal*, p. 13.

23. *Diary*.

24. *Ibid.*

25. Rush *Journal*, pp. 21-21.

26. *Diary*.

27. John Morgan to Sir Alexander Dick, Baronet, August 29, 1766. Philadelphia: American Philosophical Society. (Hereafter cited as APS).

28. LARABEE, L. W. 1959-74. *The Papers of Benjamin Franklin*. New Haven: Yale University Press. 18 vols. Vol. 13, pp. 387, 404. Presumably John Potts, Sr., a member of Franklin's "Assembly Party," solicited help for his son Jonathan.

29. *Ibid.*, pp. 468, 471.

30. *Ibid.*, p. 517.

31. *Ibid.*, pp. 531-532.

32. Rush to Jonathan Bayard, April 30, 1767. Butterfield, Vol. 1, p. 41.

33. James, p. 176.

34. Butterfield, Vol. 1, pp. 31-32. Rush to?, Edinburgh, December 29, 1766.

35. *Diary*.

36. James, pp. 177-178.

37. James, p. 178.

38. Rush *Journal*, p. 35.

39. *Diary*.

40. *Ibid.*

41. Society Collections, HSP.

42. Autograph Collection, HSP.

43. Jonathan Potts, Bill of Exchange to Deborah Franklin (drawn on Mr. John Potts). APS.

44. *Diary*. The major work of Alexander Monro, *primus* (1697-1767), was *The Anatomy of the Humane Bones* (1726); Robert Whytt (1714-66), president of the Royal College of Physicians of Edinburgh, published works on hysteria disorders and tuberculous meningitis that became medical classics; Thomas Sydenham (1624-89), "the English Hippocrates," was a venerated clinician and an authority for internists; his *Methodus Curandi Febres* (1666), *Observationes Medicae* (1676), *Opera Universa* (1685) were translated into English by 1699. Potts may have purchased John Swain's edition of *The Whole Works of Thomas Sydenham*, printed in 1749 and reprinted in 1753. Pringle's pioneering study on military medicine, *Observations on Diseases of the Army in Camp and Garrison*, was published in 1752 and was available in many editions. Carl von Linné (Linnaeus) (1707-78), the writer of innumerable scientific works, was

the founder of the modern system of botanical nomenclature.

45. Marriage Certificate of Jonathan Potts and Grace Richardson, Society Collections, HSP.

46. Rush to Samuel Fisher, July 28, 1768. Butterfield, Vol. 1, 64. (Fisher was a Philadelphia importer in England on business.)

47. Waite, F. C. 1937-38. The Degree of Bachelor of Medicine in the American Colonies and the United States. *Yale J. Biol. Med.* **10**:309-333.

48. Rush wrote to General George Washington on February 25, 1778, to commend him for promoting administrative reforms in the army medical department and to point out that "the business of providing the sick is (now) put into the hands of Dr. Potts, a gentleman of established character for integrity, humanity, and capacity. . . . " Butterfield, Vol. 1, p. 203.

The Influence of Western Medicine, Especially American Medicine, on the Development of Medicine in Korea*

By DOO JONG KIM, M.D.†

It can be traced chronologically that Western medicine was introduced to Korea primarily through China, and followed by Japanese and American efforts. However, the influence of American medicine was transmitted directly while the Chinese and Japanese influence was indirect in character.

INTRODUCTION OF WESTERN MEDICINE THROUGH CHINA

China is adjacent to the peninsula of Korea geographically; thus, the cultures of China and Korea were exchanged ever since the remote ancient age. Korean medicine had established its own tradition which was mainly dependent on the herbal medicine of China. Korea took an important role for the transmission of her knowledge to Japan in approximately the sixth and seventh centuries. In the seventeenth century, Korean medicine had its own golden age of development and the country enjoyed an Asiatic reputation as a center of Eastern medicine for both China and Japan.

In the beginning of the eighteenth century, there was available Western medical literature based on the summary of the theory of physiology which was translated into Chinese by Adam Shall, a German Jesuit missionary stationed at Peking. This was the first book that introduced Western medical therory into Korea. However, it was only the theory of physiology, as influenced by the Medieval concept of Western medicine and not by Renaissance medical theories, that Adam wrote about.

In the beginning of the nineteenth century, a few books on smallpox vaccination were translated into Chinese by British doctors who were stationed at Hwangtong, China, for the British East India Company. These books were brought to Korea and the subsequent vaccinations were performed by a Korean Catholic priest who had often visited China.

During the middle of the nineteenth century, books on anatomy, pharmacology, internal medicine, surgery, gynecology and pediatrics, translated into Chinese by English doctors in Shanghai, China, were presented to Korea and, a little later, medical literature translated into Chinese by American doctors who had been at Hwangtong, China, was also gradually introduced into Korea.

These translated medical books were concerned with the knowledge of modern Western medicine. However, they were widely read among the non-medical Confucianists who were curious about Western cultures. The medical professionals did not have knowledge of or a special interest in those books. Therefore, the concepts of Western medicine did not have an opportunity to become known to the public except for the Jennerian process of smallpox vaccination, and even vaccination had to be discontinued due to political persecution of Christianity.[1, 2]

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JAPANESE INFLUENCE

Japan had successfully imported Western medicine and was far in advance of the other Asian countries beginning in the eighteenth century. The system of education of Japanese medicine had been mainly influenced by German medicine since the middle of the eighteenth century.

After the signing of a treaty with Japan in 1875, the first Western-type hospital was built at Pusan, Korea, by the Japanese to provide medical care for Japanese residents. Later several more hospitals were built at the ports of Wonsan and Inchon, and in Seoul, the capital city of Korea. Most of the medical personnel at these hospitals had already received Germanically influenced Japanese medical educations in Japan.

In 1894 the Korean government planned and reformed her medical education and administration to conform to the modern standard. Because of the influence of Western medical knowledge, a bureau of health administration was set up and regulations concerning the prevention of communicable diseases were enacted and proclaimed by the government. And in 1899, the National Medical School and Medical Center was established at Seoul, Korea, with Japanese assistance.

The Japanese forcefully annexed Korea in 1910, and the medical education and administration were then arranged along the German system, which Japan had adopted. Eventually, most of the medical terminology and references used were in German, and many Korean students studied in Japan and Germany. The students who had studied at the medical institutes in Korea participated in various research fields based on modern medicine.

Meanwhile the medical services by American missionaries had been given to Korea in spite of Japanese pressure, and tremendous advancements of medicine in Korea were made through the direct exposure to the medical care given by the American missionaries and also by indirect contact with German medicine via Japan until 1945.

AMERICAN INFLUENCES

In 1882 the United States concluded a Treaty of Friendship and Commerce with Korea and set up a consulate in Seoul. A missionary doctor was sent to Korea from the Christian Mission.

Dr. H. N. Allen, the first American Protestant missionary doctor in Korea, was sent in September, 1884, and served as the physician of the Embassy of the United States as well as the other foreign embassies. In October, 1884, during a political crisis caused by youthful radicals, the General Chamberlain, also the nephew of the Empress and chairman of the Conservative Party, was attacked by an assassin and seriously stabbed. Paul G. Von Mallendorf, German advisor to the Foreign Ministry in Korea, who was in attendance, asked immediately that Dr. Allen treat the General Chamberlain. The General Chamberlain was in very serious condition with bleeding and bacterial infection present. Fortunately, it only took about three months for him to recover from his injuries under Dr. Allen's care. Following this opportunity to display his expertise, the reputation of Dr. Allen began to spread throughout Korea. He was well known as the best doctor. Especially afterwards, the Korean government had a deep confidence in Dr. Allen and became increasingly conscious of American medical capabilities.

A Royal hospital was built at Seoul by the government in 1885 and Dr. Allen was put in charge of the hospital. Its activities were gradually increased so much that the American missionary headquarters was asked to send more doctors for the hospital. After

Dr. Allen's return to the U.S.A. to become an advisor to the Korean Embassy in Washington, D.C. in 1887, the hospital was taken care of by other American missionary doctors. Later the Royal Hospital was faced with many obstacles and was turned over to the mission to maintain. Dr. O. R. Avison, who had been in Korea as a missionary doctor, took over the Royal Hospital in 1894, expanded the hospital and founded a medical school. An additional hospital with modern medical facilities was built under his supervision outside the South Gate, downtown in Seoul, with a donation from Mr. Louis H. Severance of Cleveland, Ohio, and the medical school was named after him as Severance Union Medical College. This institution is known today as the Medical College of Yonsei University.

About twenty new Western medical hospitals were built throughout the country in 1885, most of them staffed by the missionary doctors. The Royal Hospital and Severance Hospital, as the example of American medicine, did contribute a great deal to the development of modern medicine in Korea until the end of the Second World War. Because of the political situation of Korea under the Japanese control, however, American medicine was not allowed to play any major role in Korea for these 68 years. When American troops moved into Korea in 1945, a new era of American medicine was introduced and established. The sulfonamides, antibiotics such as penicillin, and insecticides such as DDT were brought in. The dramatic improvement in the care of pneumonia, gonorrhea, syphilis and other bacterial diseases gave the resident medical personnel a good impression of the new American medicine. When the Republic of Korea was newly formed in South Korea in 1948, medical education and the administrative system entirely followed the American example and precept. Except for the six-year medical school curriculum, including two years of pre-medical courses and four years of medical school, plus postgraduate training system such as internship and residency, and its specialty board certification, Korean medicine can be said to be exactly the same as in America. Medicine in Korea has successfully and rapidly developed to reach international standards in all fields. There are now thirteen medical schools, including one women's medical college, and about one hundred medical centers and hospitals throughout the country for the Korean population of thirty million.

Such a system of medical care contributes a great deal to Korea. However, when the American system was imported, the system was somewhat readjusted to the values of Koreans, such as her economic, social and traditional standards. In the near future we hope there will be further innovations of our present medical system consistent with Korean society.

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DISCUSSION

It is indeed an honor to discuss the paper presented by Professor Kim. His encyclopedic work entitled *Korean Medical History,*[1] published in 1966 in Korean, is the definitive work on the history of Korean medicine.

When we began the study of Korean medicine eight years ago for a chapter in the *Universal History of Medicine,*[2,3] we

fortuitously located a paper Dr. Kim had published in English. In "The Influence of Western and Middle Asian Medicine on the Development of Korean Medicine," Professor Kim pointed out that Korea has been the so-called melting pot for several different medical cultures.[4] During the age of the Three Kingdoms (757-918), Persian and Middle Asian medicine were carried to Korea. Later, ideas were brought from the Indian sub-continent, thus giving a rich interplay of the concepts once introduced from Greece. Arabian merchants in the tenth century (Koryo Dynasty) injected different concepts. By the Middle Ages, the Japanese and Chinese had also infused many of their traditional schools of medicine into the Korean system.

In the nineteenth century, Western medicine was initially introduced by the Japanese, particularly after 1876 when the imperial Nippon government began to execute a strong influence on Korean life. About this time, American medical missionaries entered the scene and started to teach modern medical advances. This culminated in the development of Severance Hospital and Yonsei University in Seoul, mainly through the generosity of Louis H. Severance, the Cleveland philanthropist.

—LAWRENCE CHARLES PARISH, M.D.

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The Coroner System and Some of Its Coroners in Early Pennsylvania

By DOROTHY I. LANSING, M.D.*

The Pennsylvania variation of the British coroner system, one of two keystones (the other being the justice of the peace) of the primitive British legal system from 1195 on, was transplanted to William Penn's first three counties of Chester, Bucks, and Philadelphia in the year 1685 by Penn himself and remained untouched after the Revolution, when most of the states continued their observance of British common law. It is not known whether Penn had in mind an attempt to avoid including the office of coroner in his personal transplantation of some of the vaunted British legal glories, but it is a recorded fact that in William Penn's province there were no coroners from 1682, when he first arrived, until three years later in 1685.

The Coroner's Court of Inquest, which in Great Britain is a court of record and the most ancient yet extant court of justice to be found in British law, is not part of Penn's system. In Britain it was often used as a financially cheaper alternative to the grand jury in criminal proceedings.

Some nineteenth-century American legal authorities have postulated that the governmental Swedish *schout,* which had considerable prior existence in what came to be the proprietorship of Pennsylvania, was allowed to metamorphose gradually into the separate offices of British local crown justice entitled *coroner* and *sheriff,* thus accounting for that three-year delay by William Penn in getting the coroner system started. Once established, however, Penn's colony and its coroners and sheriffs never caught the witchcraft frenzy of the 1600s as exhibited so dramatically by the New England Puritans. When called upon to handle cases of witchcraft, these first three counties of William Penn merely fined the violators and sent them on their way with warnings.

It is interesting to note that the original English coroner system of Eyre, created for the profit of the crown, was not without severe social drawbacks, in spite of the fact that historian Trevelyan gives its existence credit for fashioning the freedom enjoyed by the British yeoman. An individual unlucky enough to be arrested for any reason whatsoever promptly had his worldly goods appropriated by one of several coroner systems and given over to the king for revenue. Hence, legal historians such as the great nineteenth-century Maitland tell us that these locally important personages, the coroners (at first, usually knights with landed property), were, under developing British constitutional law, actually more concerned with the value of the accused man's worldly goods or what actual social value accrued to the king's estate than with the justice or the merits of the situation originally producing the arrest.

The coroner's jury behaved likewise. The sheriffs of the land, who were *travelling* magistrates as opposed to the *stationary* county coroners, had purchased their offices from the king but were frequently guilty of working against the king in these arresting situations by maneuvering the arrested person's worldly goods into the hands of the local feudal lord of the manor instead of the

*20 Old Paoli Pike, Paoli, Pennsylvania 19301. Clerk of the Section on Medical History, The College of Physicians of Philadelphia.

king, since the sheriff's personal cut of such a transaction was greater when he dealt with the lord of the manor. This widespread procedure of defrauding the king brought on, with the king's approval, the restraining practice of *electing* four county coroners in each county (plus justices of the peace), a politically clever countermove to outdo the sheriff's transactions. Subject to the electorate, these early county offices of coroner are held to be an important technique leading the British people on the road to their unique forms of self-government and human liberty. Each county had four coroners. Each elected coroner had an assistant to help him investigate and preside over an inquest on each call for help, such as shipwreck, treasure-trove, deodand, forfeiture, suicide, prison break, prison death, rape, violent death, incest and murder. This made eight local men in all, in each English county, acting as the king's legal and fiscal agents. Although untrained and inexpert in medicine and law and excused from the onerous jury duty of the time, these early coroners became in practice a functional bulwark against excessive oppression from above against ordinary folk of the realm.

Yet in 1682 William Penn's government of transplanted ordinary folk of the realm, plus newcomers from all the corners of Western civilization, had no coroners. The legal system created by Penn for his Pennsylvania proprietorship was a product of his trained legal mind and was the second carefully thought-out provincial government project on his part, New Jersey being the first. His initial efforts covering 1682 and 1685 were supplanted finally by the famous 1701 Charter of Privileges with some minor adaptations shortly thereafter in 1705. Here the coroner became an elected county official, originally in 1701 to serve three years and in 1704 to serve just one year, but with little power and a reduction in numbers to *one* as opposed to the *eight* men needed in an English county. A hundred and fifty years later the great Pennsylvania jurist Horace Binney was unable to define the coroner's duties precisely for physicians in a special pamphlet published by the Pennsylvania Hospital in response to the Philadelphia County M.D. coroner's demand to be allowed to instigate malpractice proceedings at the hospital.

The Pennsylvania Act of 1705 had modified things set up in the famed Charter of Privileges of 1701 by forcing the future county coroner to swear an oath that he was a Christian and to give an affirmation bond for the responsible execution of his office; it also changed the time limits so that the elected man served just *one* year of his office instead of three years. By 1753, the legislature had made it a penal offense for a coroner to give away "strong liquor in return for a vote for himself in the election." If found doing so, he could not hold office as coroner for one intervening year.There was never a general act outlining the duties of a coroner.

Those early coroners under William Penn's law in America were assigned to investigate deaths primarily and prison breaks as a sideline. It was their job to ascertain all the facts of a strange or unknown death and make sure the goods and worldly possessions of the victim did not travel back across the sea to the king as a form of forfeiture.

This elected *county coroner* was the only kind of English coroner retained from British common law by the colonists and Americans. Appeals against the coroner's ruling never became a part of Pennsylvania state law, nor were shipwreck, treasure-trove, deodand and forfeiture important as they had been in England. Robbed thus of the major portion of his ancient jurisdiction, the coroner in Pennsylvania could hold inquests only on deaths and prison breaks, but he never exercised the latter function. In fact, in colonial times, the legislature thought the

office of coroner was so puny that they added to it: he must attend court and he had small jobs to do at election times. He had no power as a committing magistrate and could not call a jury, serve a summons or a subpoena - all legal powers that the coroner possessed in England. His court was not a court of record. No "Inquest Bar" developed among the lawyers of Pennsylvania, for example.

Dead men were so frequently found floating in the harbor of Philadelphia in 1682, 1683 and 1684 that even William Penn had to create some legal institution to deal with such deaths in his new colony. Under such practical pressures, William Penn in 1685 finally appointed three men: Dr. Griffith Owen for Philadelphia County, James Kanela, Kammersely, or Kinnerly for Chester County, and Robert Hall for Bucks County, for three years, to investigate unusual deaths.

Griffith Owen was a fine physician who died in Philadelphia in 1717 at the age of 60. He was 38 years old and a Welshman with superior medical training at the time he served William Penn as Philadelphia County's first coroner. He was then one of three doctors in Philadelphia, the other two being Thomas Wynne and John Goodson.

Robert Hall, the Bucks County coroner, was a lay appointee, an English Quaker of substance who settled originally in the 1670s in Burlington, New Jersey, where William Penn had been one of the trustees of New Jersey in 1672 and was thus aware of the settlers.

James Kanela of Chester County, also known as James Kinnerly, eludes this writer. He apparently served only one year, for one incomplete record states that Jacob Simcock replaced him in 1684 and then Jacob Collett also served. Kanela and Simcock were apparently Swedes and may have had prior public service as the *schout* mentioned before. We do not know if they were physicians.

Forty-five years later, the coroner for 1729 in Chester County was Abraham Darlington, a saddler by trade, who was regarded as a practicing physician of sorts who set broken bones for the neighbors. Indeed, it seems that often the early coroners were combination men: farmers, saddlers, bone-setters or medical emergency workers, and coroners all rolled into one.

From the time of the 1701 Charter of Privileges on, the coroners and sheriffs of Pennsylvania were to be "elected and chosen." Two men per county were elected annually to each post and one of the two men for each post was then selected by the governor to fill the office. The governors usually had the sense to pick the man who had received the larger number of votes, and this elective tradition was continued after the American Revolution until Governor Thomas McKean flouted it in 1807 and actually chose a man with the smaller number of votes (in Chester County, one Titus Taylor over George Hartman). Finally, with a new Pennsylvania State Constitution in 1838, one victor as county coroner resulted from each annual local election, with the governor's whims no longer concerned with the office and duties of the coroners of Pennsylvania - which, by then, were still not much.

The early coroners, as investigators of all violent and accidental deaths, drownings, and casualties, were logistically unable to accomplish their duties on a county-wide basis so that, in Dr. Benjamin Rush's time, justices of the peace or the local physicians would also do the work on a fee-for-service basis. In 1814 the coroner or coroner-substitute was paid $2.75 for viewing a dead body, $1.37½ for drawing up and returning an inquest, $0.25 for summoning qualified witnesses, all such costs being paid out of the goods and chattels of the dead victim unless a slayer was located to assess the costs against.

Rural newspapers were not available until 1795 when the entire population of the United

States was getting toward the five million mark, so only miraculously preserved snippets of paper from early coroners remain; there are no newspaper accounts of their behavior. Of course, Struthers Burt used to remark that one of the features of primitive settlements is that for a few years everyone is too busy and too afraid of the surrounding wilderness to misbehave - a trait Rousseau mistakenly called "natural man."

Crime (which I am sure all coroners regard as the "natural state of man") and punishment are always fascinating topics through which to view a given society or culture. Yet Philadelphia's first prison was not built until 1723 (the equally necessary Lazaretto was, by contrast, not built until 1740), almost forty years after the city began. The women of the 1680s who bore illegitimate children were whipped in public.

In 1691, there is recorded the first officially recognized murder in the vicinity of Philadelphia: Thomas Lutherland murdered John Clark of Philadelphia. As a result, William Bradford published a pamphlet entitled *Blood Will Out or An Example of Justice in the Tryal, Confessions of Thomas Lutherland who Murthered John Clark of Philadelphia, Trader, tried and Executed at Salem, N.J. the 23rd Feb.* Lutherland betrayed himself by answering questions, and the justice of the peace hearing the case pronounced the death sentence and he was executed promptly. With the media's current arguments about plea-bargaining being something new and corrupt in our law, it is interesting to note that the accused Lutherland thought that he should have been tried for robbery, not for killing the victim who resisted him, because *that* was an accident!

After the middle of the century, in 1756, the first black slaves were imported into the Quaker City of Philadelphia. Philadelphia did already have one tobacco plantation at "Harriton" in the Merion Welsh tract run by a former Maryland planter, William Harrison, who had brought 100 slaves with him from Maryland. Medical historian Richard Shyrock always thought that "Harriton" was the farthest north that slave-owning enterprises ever came in North America. In nearby Virginia the white slave owner who had killed his black slave was not subject to the sovereignty of the coroner's inquest, for the black man was classified as *property* and did not qualify as a human being protected by and subject to British law so famous for its personal freedom. The legal safety factors inherent in a system of elected coroners thus were not extended to the slaves of the new world plantations, for they were the property of other men.

In the United States, the Supreme Court has ruled that county commissioners cannot impose their favorite political doctor upon the elected "lay" coroner, nor pay the salary of such a favorite in order to hamstring the individual coroner in the discharge of his office. The coroner must act wisely and, if he does not, no one can rectify his errors. By the Pennsylvania Act of 1722 establishing the State Supreme Court, that court was given powers over the coroners; coroners, of course, could be impeached, imprisoned, and fined for malfeasance in office.

As for paying the accounts of these first coroners, in 1682 at Upland (now Chester) a fee bill was passed: no one knows what was in it. On March 1, 1682, in Philadelphia, the following coroner's fees were listed:

Viewing dead body	10 shillings
Warrant to summon inquest	2 shillings
Entering verdict of inquest	1 shilling
Returning the inquest	1 shilling
Arresting the sheriff	3 shillings
or anyone he arrests for the sheriff	3 shillings

By 1710 in Philadelphia the coroner was required to post his fees publicly, like M.D.'s in 1972-73. The coroner system was thus essentially a fee-for-service system under Penn.

But of Robert Hall, 1685 coroner of Bucks County, Englishman; Dr. Griffith Owen, 1685 coroner of Philadelphia, Welshman; and James Kanela, Kammersley or Kennerly, 1685 coroner of Chester County, Swede, I can recite little more than their names. That they were men who had immigrated to the American wilderness and were personally known to William Penn is self-evident. They were part and parcel of the English tradition that the middle class do the actual work of governing itself. Called upon to render decisions that we describe today as expert forensic pathology and to do legal work, at best they could only utilize their innate common sense and good judgment. Where a physician such as Dr. Griffith Owen consented to serve, colonial Americans had the best of all possible worlds.

The loosely arranged and informal coroner system set up by William Penn in 1701 could be easily abused by an elected coroner who would threaten to hold an inquest and then accept a monetary bribe for not doing so. Around 1900 the complaints about this procedure were so great that abolition of the office of coroner was seriously considered. The coroner's original purpose of investigating a crime and assigning blame and cause came to be taken over by the office of the district attorney.

The rationale of the original coroner system was to provide the king with estates out of the accidental dilemma of the unlucky; the decisions of the modern coroner, who may be one of the small band of forensic pathologists, may still mean the difference in survivors' collecting thousands of dollars in double indemnity insurance payments, to cite a minor example of his importance to society. Oblivious to death and wishing to avoid it by ignoring it, American society ignores its physician-coroners. They are frequently unheralded for the valuable work they do. There are some governmental planning experts who feel that a coroner should be a legally trained person, a lawyer not a physician.

Out of an office that existed originally with the justice of the peace for the king's profit, whose occupant was to seek diligently for money and goods for the king rather than for the cause or perpetrator of the violent deaths, has come our American variation on that theme of some 700 years ago. The performance of that original office obviously led to dissatisfaction among those who dared to emigrate to the new world. The coroner in the new world never attained the status of his British common law counterpart. There are Canadian law experts who are both physician and lawyer who believe that a coroner's inquest could be a rapid, cheap alternative to the expensive civil action malpractice litigations so rampant now, yet readily admit that cases needing coroner's action are not codifiable. They have much in common with the Philadelphia coroner of the 1840s who caused the great Horace Binney to do his research on the institution of coroner in Pennsylvania. In Canada, the coroner's jury and court of inquest as established found that both institutions had to be modified to preserve the civil rights of witnesses.

If the coroner system had been better grounded by William Penn in the beginning and allowed to progress with society's view of itself, perhaps the current extraordinarily expensive civil medical malpractice with its "malpractice bar" would never have come to pass. It is merely, of course, wishful historical thinking.

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Annual Report on the Library

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THE COLLEGE LIBRARY—1975-76

Successive annual reports are mixtures of continuing concerns, issues which have been resolved, and new issues vying for attention. This one-year window of time in the institutional life of a library in its 188th year reveals more familiar detail than new substance. The persistence of unresolved problems of institutional relationships, space and budget do not gainsay the maintenance of high standards of service which have long distinguished the College Library.

The renewal of the regional medical library contract following its technical termination and the response by the College to the National Library of Medicine Request for Proposal is noteworthy in any temporal perspective. A detailed account of the shifts in objectives, organizational changes and programmatic developments is presented in the Mid-Eastern Regional Medical Library Program section of this report. Suffice it to say here that the extension of this vital service resulted from a major effort on the part of the officers and staff of the regional program, the College administration and the Library itself.

Severe budgetary constraints in all Library departments represent the Library's share in a College effort to reduce the deficit. From the historical view of the evolution of its acquisition policy it must be acknowledged that the Library is adding a smaller and smaller percentage of the new publications in the health sciences. After the almost complete coverage of the medical literature of the 18th and 19th centuries and the selective but adequate acquisition of the first half of the 20th century, it must be conceded that the College Library is not acquiring a major portion of health science literature of the second half of the century. The volume and cost of the total publication in the field necessarily limits the number of institutions financially capable of comprehensive collecting policies. Fortunately for the Philadelphia area, well-defined cooperative acquisition policies provide a composite of collections which continue to serve the community well, but even the aggregate will be diminished enough to reduce the independence which the local area has enjoyed.

Library stack space. The College Library, in common with other collections, faces the perennial problem of providing space for new acquisitions. In 1954, this need for growing room was met by constructing an extension of the original stack building. The prediction at that time of twenty years growth space gained has been fulfilled and today the stacks are too overcrowded to be operated efficiently.

Studies initiated in 1968 produced a plan to clear duplicates and unsorted gifts from the first floor of the new stack to accomodate

19th century journals, which in turn would provide space in the upper levels to transfer from five to ten years of journals from the old stack, which would then provide space for the latest journal volumes. Involved, of course, is moving and rearranging almost all of the collection, requiring enormous amounts of staff time which is not available.

The Library Committee authorized the employment of a Stack Manager to accomplish the move and to minister to the identified preservation needs of neglected materials which are self destructing on the shelves. Unfortunately the stringent reductions of the 1976-77 budget did not permit the employment of the Stack Manager.

Even more crucial, of course, is the realization that this major shifting of the collection is only a stopgap measure, gaining about five years time. The identifiable potential solutions are: a new building, additions to the present building, remote storage of major parts of the collection, or a major microfilming effort. The objective of providing on-site space for growth until the end of the present century can be met by a new building on the old Erlanger Garage site. Some general architectural plans were developed several years ago but more precise plans and another major fund raising effort for a new building are significant requirements.

PALINET-OCLC (Ohio College Library Center). Proposals to join the PALINET-OCLC network suffered major set-backs when funding through the Regional program was rejected by NLM, and when the College budget was not able to accomodate this new program. It would cost an initial $3,000 for the terminal plus estimated annual costs of $2,500. The OCLC network is now the only method of determining the location of books acquired since the discontinuation of the Union Library Catalogue of Pennsylvania's card files at the end of 1975. It is now necessary to pay the Union Library Catalogue $3.00 per title to be located through their access to the OCLC system. Perhaps more significantly, the post-1975 additions to the College Library are not in the system and a substantial loss of location information for local and national users results.

The Staff of the College Library. The Librarian's section of this report cannot be closed without a tribute to the staff, whose special efforts have enabled the Library to maintain the high quality of service to its clientele.

Total Library staff efforts have produced more than $700,000 of Library-related income in addition to $35,787 of library endowment income. Admittedly this falls about $109,000 short of total library costs, but we know of no other library in this country which covers so large a portion of its expenditure. This total group effort demonstrates an *esprit de corps* of which the College may be justly proud.

HISTORICAL COLLECTIONS

During 1975/76, the Historical Department concerned itself principally with preparations for the Bicentennial Celebration. From August until April 13th, when the Bicentennial Exhibit was opened, the Curator spent one-quarter to one-half her time on choosing topics, preparing text, and selecting illustrative material (manuscripts, printed books, pamphlets and journals, engravings, and objects) — all, of course, in constant consultation with Mr. Charles Schock, designer of the exhibit, and Fred B. Rogers, M.D., consultant. Under the general title, "The Heritage of American Medicine: Chapters from the Philadelphia Story," nine retrospective modules were produced, entitled, respectively:

1. Men and Institutions of Early Medical Philadelphia

2. Military Medicine: The War for Independence

3. Yellow Fever: Holocaust and Heroics

4. Public Health: The Conquest of Disease Begins

5. Philadelphia Medical Institutions: Innovations and Important Contributions

6. Surgery: The Conquest of Pain Begins

7-8. Military Medicine: The Civil War

9. The Gift of Life: Twentieth-Century Successes

In a related project, the Curator assisted Mary Ann Ramsey and Ed Eckstein, photographer, in the historical aspects of preparation of an elaborate brochure describing the College's background and current function. This brochure, with its excellent photographs contributing to the 10th module of the Bicentennial Exhibit, was designed to set off the College's "Third Century Fund" promotion, also opened on the 13th of April.

Other exhibits were mounted in advance of the Bicentennial Celebration: "Music and Medicine," June to August; "Medical Advertising," August to January; "C. G. Jung Centenary," November to January. These were largely the work of Ellen G. Gartrell, our competent and devoted Assistant Curator. The two new permanent display cases which were designed by Mr. Schock to our requirements presently contain exhibits devoted to the history of the College, especially its Presidents.

Other Bicentennial activities brought the reference activity of the Department to an all-time high of 1,005 reference contacts. Most of these were dealt with by Mrs. Gartrell. Eight hundred twenty-seven manuscripts and books were paged for readers; 115 photographic reproduction (slides, prints, negatives) were supplied. Fifty-four Fellows of the College used the resources of the department on 134 occasions.

A limited number of special activities were undertaken. In October, Dr. Russell Maulitz's undergraduate class in the history of medicine came from the Penn campus for a demonstration-exhibit of early anatomical illustration. The Curator continued her activity as consultant to the Historic Library at the Pennsylvania Hospital, and participated in several planning sessions in the interest of the historical collections at the Medical College of Pennsylvania. Organizational work on behalf of the new Association of Librarians in the History of the Health Sciences proceeded throughout the year, especially at the American Association for the History of Medicine meeting in Galveston in May, and at the Medical Library Association meeting in Minneapolis in June, where the Curator concluded her term as Chairman of the History of Medicine Group.

Limited cataloging activity was carried on by Mrs. Gartrell during the Bicentennial preparations; when at last they came to an end in April, we were able to resume this very essential part of the departmental operation. By the generous assistance of the Women's Committee, the Department was once again able to enjoy the experienced assistance of Betsy Soifer, who previously spent two summers working on manuscript and other special collections. Statistics for the year's activity in cataloging are as follows:

Items newly catalogued:	351
Items recatalogued:	151
Articles analyzed:	63
Cards filed:	2,400

As usual — and even more so in this hectic Bicentennial planning year — the steady labors of staff members Jean P. Carr and Patricia A. Connors contributed substantially to the smooth functioning of a busy department.

Gifts. During the report year 1975/76, the following gifts were made to the Historical Collections of the Library. They are listed in approximate chronological order.

The Hyde Collection of Autographs and Engravings (for description, see this journal, 63:62-63, October 1975). Donors Mr. and Mrs. A. P. Hyde.

Home, Everard. *Practical Observations on the Treatment of Ulcers on the Legs.* Philadelphia, 1811. Dr. Karl Meyer, donor.

Weick, John Michael, 1803-1880. Diplomas, and other papers, 1803-1879. Presented by his great-granddaughter, Clara Ethel Potts.

Thomas, Robert. *The Modern Practice of Physic, . . .* 6th American from the 7th London ed. New York, 1822. Dorsey, John Syng. *Elements of Surgery for the Use of Students. . . .* 2d ed. Philadelphia, 1818. Given by Mr. and Mrs. Nicholas Navazio.

Jung, Carl Gustav. *Wandlungen und Symbolen der Libido.* Leipzig, 1912. Presented by Charles E. Rosenberg.

Coleman, James M. *Aesculapius on the Colorado.* Austin, Texas, 1971. Presented by Mrs. Walter S. Moore.

Miller, T. Grier. Collection of reprints, presented by the author, a former President of the College.

Franklin, Mark (medical student at Jefferson, about 1870). Collection of his matriculation cards. Dr. Douglas C. Wasley, donor.

Sturgis, Samuel Booth. Three scrapbooks containing the full record of his Army service during World War I, with documents, photographs, and memorabilia; a general autograph collection, including material on David Livingstone and Henry M. Stanley; and Byrn Mawr Hospital's first register of patient admissions, 1893-1905. Presented by Dr. Sturgis.

Sturgis, Katharine R. Additions to the collection of her pictures, awards, etc., and some correspondence during her service as President of the College.

Vidal, Teodoro. *Los Vilagros en Metal y en Cera de Puerto Rico.* New York, 1975. Dr. Gonzalo E. Aponte, donor.

Grynaeus, Johann Jacob, ed. *Adagia, id est: proverbiorum, paroemiarum et parabolarum omnium. . . .* Frankfurt, 1643. Gift of Mrs. Lorraine N. Greenberg.

Butler, Samuel Worcester, 1823-1874. Case-book and journal, 1849-1856. Donations toward the purchase of this important manuscript were received from Miss Clara Manson, a former cataloguer at the College Library, in memory of W. B. McDaniel, 2d; from the Hoffman and Make families in recognition of the 50th wedding anniversary of Dr. and Mrs. Samuel X Radbill; and from Doctors John F. Huber, Fred B. Rogers, and Steven J. Peitzman.

Proceedings of the Aesculapian Society of the Wabash Valley 1903-04 and McDonough's *Illinois Medical Directory 1895.* Gifts of Mr. George T. Weber.

Richardson, Joseph G. *Medicology, or, Home Encyclopedia of Health.* New York, 1907. Gift of Dr. Alan Josselson.

McDaniel, Walton Brooks, 1897-1975. Collection of testimonial letters presented to him upon the occasion of his retirement as Curator, Historical Collections of this Library, October, 1973. Also a selection of books from his personal library. Presented by his executor, Norman Lutz.

Fujikawa, Yu. *Geschichte der Medizin in Japan.* Tokyo, 1911. Sir William Osler's copy, bearing his library mark; accompanied by correspondence tracing the book's owners up to the present. Gift of Dr. Samuel X Radbill.

Asheton, ---. Ticket of admission to the chemistry lectures of William Cullen, on the back of a playing-card. Given by Dr. Frieda W. Woodruff, in memory of her father, George W. Wagoner, M.D., 1896-1957.

Scheffey, Lewis C. A collection of his papers, on general subjects, including material from his service as President of this College. Presented by Mrs. Scheffey.

Ord, George, 1781-1866. Catalogue of his personal library, as sold by the Library to Dr. Jacob da Silva Solis Cohen in 1882. Presented by his daughters, the Misses Solis Cohen.

Alfred Marchionini zum 10. Todestag, April 1975. Gift of Dr. Walter B. Shelley.

Francis, W. W. Letter to T. B. Futcher, 1935. Presented by Richard W. Foster, Honorary Fellow.

Kane, John Kintzing, 1833-1886. Common-place book on medical matters, ca. 1865(?) Presented by Mrs. E. Paul duPont.

Radbill, Samuel X. Letters concerning his service as Secretary of the American Association for the History of Medicine, etc. Presented by Dr. Radbill.

Congressional document, 1791, concerning duties on distilled spirits, and a 1792 issue of The Providence Gazette, containing observations on life-expectancy. Given by Dr. John P. Hubbard.

Keen, William Williams, and David Hayes Agnew. Various pamphlets, photocopies, and reprints of articles from their several pens. Presented by Dr. Donald C. Geist.

Nineteenth-century American medical journals, various duplicate issues, and three pamphlets. Given by Mrs. Stewart Huston.

Mudd, Emily Hartshorne Borie. Typewritten transcript of interviews, 1974, concerning her professional and personal interests and activities, as deposited at the Schlesinger Library, Radcliffe College. Presented by Dr. Mudd.

Meier, Louis A. *Early Pennsylvania Medicine.* Norristown, 1976. Presented by the author.

Laurentius, Andreas. *Historia anatomica humani corporis.* Frankfurt, 1600; and Fallopius, Gabriel. *Libelli duo. . . .* 1566 with other early works. Presented by Dr. Gilson Colby Engel.

American Dermatological Association. Hundredth Anniversary program, 1976. Gift

American Dermatological Association. Hundredth Anniversary program, 1976. Gift of Dr. Walter B. Shelley.

An array of interesting items was presented throughout the year by Fred B. Rogers, M.D. Other welcome gifts came from the American Academy of Dermatology, Harold D. Barnshaw, M.D., Eastern Pennsylvania Psychiatric Institute, M. Luther Kaufmann, M.D., Dorothy I. Lansing, M.D., Erna Lesky, John J. B. Light, M.D., Esmond R. Long, M.D., Medical College of Pennsylvania, Lawrence C. Parish, M.D., Jonathan E. Rhoads, M.D., and George L. Spaeth, M.D.

Publications.

Ellen G. Gartrell: *Electricity, Magnetism, and Animal Magnetism: A Checklist of Printed Sources 1600-1850.* [Prepared under the auspices of the American Philosophical Society Library.] Wilmington, Del., Scholarly Resources, Inc., 1976. (125 pp.; 1,296 entries)

Lisabeth M. Holloway: O Pioneers! [a numerical review of American women physicians in the 19th century, and their educational background]. *Philadelphia Medicine* 71:407-411, Oct. 1975.

—— . The Oslers and the College of Physicians of Philadelphia: Some Further

Footnotes to a Twice-Told Tale. *Osler Library Newsletter* no. 20, Oct. 1975. Also appeared, with some changes, in: *Transactions & Studies College of Physicians of Philadelphia,* 43:64-68, Oct. 1975.

—— . The Pickle of Antiquity, *Ibid.* 43:60-63, Oct. 1975.

Lisabeth M. Holloway, *Curator*
Ellen G. Gartrell, *Assistant Curator*

REPORT OF THE ASSISTANT TO THE LIBRARIAN

The S. Weir Mitchell Associates increased by only one endowment. This promising program has gradually dwindled as the focus on raising funds for the College has broadened to encompass more general purposes than support for the journal collection, but it remains an open and inviting means of memorializing individuals and supporting the library in a permanent and constructive way. The Fellows' Librarian invites inquiries, and will gladly explain the program.

Visitors included Dr. Otto Jepson and Mrs. Jepson of Denmark (Mrs. Jepson is a medical librarian). Classes from Drexel University's Library School, Villanova University's Library School, Mercer Hospital Nursing School of Trenton, and the Bok Vocational School were given orientation tours of the library and brief lectures on its history and function.

Miss Kay Decker, a graduate library science student from Villanova, served a three-month practicum in the library during the Fall term 1975.

Fellows' librarian special services were extended to 254 individual Fellows, an increase in use over 239 last year. Fellows' use of the Reading Rooms and circulation of books is not separately monitored, but those requests specifically directed to the Fellows' Librarian account for the following statistics.

Fellows' Services

Number of Fellows requesting special service		254
once only	131	
2-5 times	75	
6-10 times	36	
over ten times	12	
Reference questions		82
Bibliographical searches		176
Citation verification/identification (a single request may include multiple citations)		72
Direct loans by mail		10
Books especially ordered for Fellows		3

The Library Photoduplication service was augmented by furnishing back-up service for a continuing education program of the American Board of Allergy and Immunology during the latter half of 1975. In all, 20,060 requests were received of which 18,297 were filled, giving a fill rate of 91 percent. A total of 146,780 pages were photocopied. This service is in addition to that provided under the Regional Library Grant and is not government funded.

The duplicate collection continues to shrink, but nevertheless several hospitals drew upon it for replacement copies, and we continue to accept donations of recent (five years) issues and to offer access to the collection to area libraries.

The Library paging staff pam-bound 1,051 volumes in addition to their primary responsibilities of paging and shelving. Once again tribute should be paid to the unfailing courtesy and amiability of the pages toward our patrons. The pages contribute immeasurably to the good repute of the library by their prompt and pleasant service to our readers.

The Certification Examination of the Medical Library Association for librarians in the Delaware Valley area was given at the Library in March in cooperation with the national association.

Mrs. Davis participated in the Interlibrary Delivery System annual meeting, attended meetings of the Delaware Valley Chapter of the Association of College and Research Libraries, and the national convention of the Medical Library Association. She is a member of the MLA Membership Committee for the Mid-eastern region. She also contributed to the teaching program at the Drexel Graduate School of Library Science as a panelist for two sessions of the class in Fundamentals of Library Service.

It has been a very busy year, and the Fellows' Librarian is particularly gratified that each year more Fellows become aware of and use the special services which she is prepared to give in order that they may more readily and easily avail themselves of the magnificent resources of their library.

Beatrice F. Davis
Assistant to the Librarian
and Fellows' Librarian

SERIALS DEPARTMENT

The Serials Department has made a number of changes during the 1975-76 fiscal year in order to combat ever-increasing journal costs.

One hundred sixty-seven little-used journals were cancelled during this period, realizing a savings of $7,250. Virtually every journal received by the library is reviewed each year before being renewed, according to the following criteria: (1) coverage by abstracts and indexes; (2) availability of other copies in the area; (3) relation of the title to traditional library strengths and special interest groups among the Fellows; (4) value to the Medical Documentation Service; (5) cost; (6) language. The same criteria are applied to new titles before a decision is made whether or not to subscribe.

In July, 1975, a serials rationalization program was initiated by the Librarian. This program represents a step toward cooperative journal acquisitions on a regional basis. A system was developed by the Serials Department for alerting fifteen large medical or scientific libraries in the area of our cancellations. Each library advises us whether or not it plans to continue subscribing to those journals on the list to which it already subscribes, and if it would consider sharing costs to keep a title held only by the College in the region. The Serials Department keeps a record of responses. We plan to continue this activity, and hope it will result in greater interlibrary cooperation.

The Serials Department cut back costs considerably by transferring 80 current subscriptions to new agents. We located an agency in New York which handles Russian titles exclusively, and transferred 40 subscriptions to it. Each subscription is several dollars less than the price charged by our former agent, and we benefit from a 10% discount given to us by this agency as an educational institution. We also located an agent in Switzerland who is affiliated with a major medical publisher. We transferred 40 European subscriptions to him and realized a saving of $500. In addition to this actual saving, there are hidden benefits. This agent receives our journals in his offices, then ships them on to us. Missing issues are noted and claimed immediately by him, and loss in the mails is minimized because of bulk weekly shipments. New American journals are being purchased directly from the publishers to save handling costs charged by most agents. We plan to continue our search for the best service on our subscriptions at the lowest price.

The Serials Department has greatly increased the number of out-of-print desiderata acquired during this fiscal year. Unbroken files are essential to a strong collection. A complete record of issues we

lacked was established, enabling us to take maximum advantage of the offerings of other libraries, dealers and central clearinghouses. Most of the issues acquired in this manner were free or nominal in cost. Our friends at the G.H. Arrow Company met our needs wherever they could. We are extremely grateful to them for their help.

We continue to build our network of colleagues in libraries throughout the world. These librarians help us fill gaps in our collection, intercede with publishers and agents on our behalf in their respective countries, and provide information and additional contacts. It is impossible to estimate the value of these relationships to our collection.

The position of Serials Librarian, a part-time professional position, was changed to Serials Assistant, held by a full-time paraprofessional. The presence on a full-time basis of this assistant has enabled the staff to greatly increase its productivity in every facet of serials work.

The services of a second commercial bindery have enabled us to more than double the number of volumes bound yearly at less than twice the cost due to the availability of an inexpensive but durable binding. Rapid binding is an economy measure in that it protects journal issues from damage and loss.

Ellen Batty, *Head*
Serials Department

MID-EASTERN REGIONAL MEDICAL LIBRARY PROGRAM

The Mid-Eastern Regional Medical Library Service (MERMLS) ended FY 75 on the somber note of an impending contract termination with its funding agency, the National Library of Medicine (NLM). The terminal contract date was announced as Febrary 29, 1976, by which time NLM was to have received and evaluated responses to a Request for Proposal (RFP). The College of Physicians of Philadelphia resolved to commit its resources to the preparation of a response to the RFP in the belief that regional medical library services should continue uninterrupted from the College-based program. The planning, writing and subsequent defense of the RFP Response were major activities of the MERMLS administrative staff during the past fiscal year. On April 30, 1976, after a two-month contract extension and a series of negotiating sessions, the College was notified by NLM of a three-year contract award for the provision of regional medical library services.

Governance Board. Essential to the acceptance of the RFP Response was the creation of a management structure which would have sufficient authority to influence change at regional policy making levels. The Deans of the medical schools in the Region met at the request of the College of Physicians in June 1975 to discuss the most appropriate administrative structure for meeting the goals and objectives of the regional program. At a second meeting of the Deans in October, the MERMLS Governance Board was established, consisting of the following nine members: Dean, Pennsylvania State University College of Medicine at Hershey; Dean, University of Pittsburgh School of Medicine; Dean, Philadelphia College of Osteopathic Medicine; one Dean to represent the four other medical schools in Philadelphia; one representative each from the Pennsylvania, New Jersey and Delaware Hospital Associations; President, College of Physicians of Philadelphia; and Chairman, Library Committee, College of Physicians of Philadelphia.

The responsibilities of the Board include the following: interactive planning with diverse groups; establishment of goals and objectives; development and approval of

policy; operational supervision of the program; continuing assessment of user needs; and evaluation and measurement of the degree to which objectives are achieved. To assist the Board in carrying out its responsibilities, the need for a number of program committees was recognized. Early in its tenure, the Board identified and assigned charges to committees on extension services, MEDLINE coordination, subregionalization, and audiovisual coordination. The task of the program committees is to develop recommendations to the Board for the solution of specific problems. Proposals from the committees will be reviewed by the Board at its first meeting of FY 77.

Regional Boundaries. Another crucial item addressed in the RFP Response was the appropriate geographic configuration for the Region. Particular attention was focused on the subdivision of New Jersey. A defense of the existing geographic boundaries of New Jersey was presented based on philosophical and sociological considerations. Also taken into account was the overwhelming desire of most librarians in southern New Jersey to continue the service arrangement from Philadelphia.

NLM felt that "in consideration of existing and future state-wide programs, systems, and associations (such as the State Library Network, State Hospital Association, State Medical Societies, Dental Societies, etc. and the Health Systems Agencies as will be established by the Health Planning and Resource Development Act of 1974)," realignment of regional boundaries was appropriate. Therefore, Region III was awarded Pennsylvania and Delaware. Region II was awarded the entire state of New Jersey in addition to New York.

For the first twelve months of the contract, institutions in southern New Jersey will be permitted to use the College of Physicians for document delivery services if they so desire; however, they will be encouraged to exhaust the library resources in their own state first. The College of Medicine and Dentistry of New Jersey has therefore been designated as a subcontractor of the College of Physicians and will receive reimbursement for requests filled for southern New Jersey.

Planning Model. While the College of Physicians was planning for continued regional medical library services, a study was taking place which would provide guidelines for institutions like the College on developing their planning function. *Planning for Regional Medical Libraries* was the title of a study commissioned by NLM of a team of researchers headed by Charles T. Meadow, Professor of Information Sciences, Graduate School of Library Sciences, Drexel University. The Meadow study was followed with particular interest by MERMLS since it used Region III as its basic model. The recommendations made in the Meadow report did not relate to specific plans but rather to a proposed methodology for planning. The same methodology could be applied by all regional medical libraries. Professor Meadow presented his planning model at the February RML Directors' meeting where it initially received a mixed response. Comments received later from those who had time to examine the report in its entirety were more favorable. MERMLS has benefited from the data collected in the study and also from recommendations on how to organize for planning. The MERMLS Governance Board resembles very closely the management structure outlined in the Meadow report.

Document Delivery Service. The number of filled requests for the year increased to 51,065 from 49,319 the previous year. This moderate increase of less than four percent reflects a considerable decline in the preceding year's growth rate of twenty-three percent. Two factors are believed to have

contributed to the slowed growth rate. The first and more persuasive factor was the continued emphasis MERMLS placed on the necessity for participating libraries not to rely exclusively on MERMLS to meet their document delivery needs. This message was repeated often in policy statements, in newsletter articles, and in addresses to library groups. The second restraining factor was far from deliberate. Quota stamp allotments were initially made on the basis of the announced contract termination in February. When the contract was extended for two months, it was decided to issue more stamps, but only to those libraries which applied for them. In order to apply, a library had to respond to a short questionnaire which would aid MERMLS in determining the ease of implementation of steps outlined in the RFP response to distribute the costs of document delivery. No library was refused quota stamps, but some categories of libraries had more difficulty with the questions than others. In April, when word was received of the contract award, it took two weeks to distribute stamps for the coming year and libraries were asked to hold their requests to a minimum during the two-week grace period.

The College of Physicians experienced its first deterioration of throughput time in the processing of photocopy requests during the beginning months of the fiscal year. Among the contributory factors were an unusually high turnover in departmental personnel, staff illnesses, and large shelving backlogs. Each quarter, after the unsatisfactory performance in July-September, improved, with the last quarter of the year back up to previous standards of 92 percent of the requests filled on the day of receipt and 99 percent filled within four calendar days.

The Meadow study pointed out the widely divergent attitudes which exist in the Region regarding turnaround time. Librarians were interviewed who remarked on the speed with which they received their document deliveries, while their counterparts in nearby institutions complained about the slowness of the same service. It is generally recognized that postal deliveries are responsible for the greatest portion of the time lag. In order to obtain precise information on mail service, a specially designed postcard was inserted with photocopies and instructions given to mail the postcard back with the date indicated on which the material was received. This study confirmed that the average length of time for material to reach its destination is two days. The Interlibrary Delivery Service operating out of Lancaster, Pennsylvania, offers an alternative to the postal service for those libraries which can afford the $700 yearly membership fee.

A revised quota questionnaire was distributed in March and constituted the first comprehensive survey of the Region's health science libraries since the quota questionnaire was introduced in 1969. The revised questionnaire reaffirmed and formalized the sharing agreement always implicit in MERMLS network membership. Libraries signed an agreement to accept network referrals and to submit a copy of their journal holdings list to MERMLS. A cover letter was written to accompany the questionnaire and explain the rationale for the stamp allocations. According to the Meadow study, there was lack of understanding on the part of some librarians as to how their stamps were allocated. A slight downward adjustment of quotas occurred as a result of less credit being given to institutions for their part-time personnel.

The referral of unfilled requests was set back in large measure when the Union Library Catalogue of Pennsylvania (ULC) closed its card file on December 15, 1975. The College of Physicians had attempted to anticipate the ULC policy change by obtaining access to OCLC, first in a shared

cooperative cataloging grant application and later in a similar program set forth in the RFP response. Both proposals were rejected, and, therefore, MERMLS will have to refer an increasing number of requests to NLM.

Regional Reference Service. Philosophical differences between MERMLS and NLM as to the definition and role of regional reference services resulted in a cut in reference personnel in the new contract award. MERMLS maintains that an evaluative review of its reference service by NLM reference staff would resolve many points of contention. Such a review has been promised for the coming year with the future status of reference service resting on the outcome of such an evaluation.

The reduction in personnel leaves one full-time-equivalent reference librarian and means that for the first time eight-hour coverage of the reference desk is not possible. Statistics in all categories of answer service for the year showed a marked decrease with manually compiled bibliographies affected the least and reference searches affected the most. There was, however, increased involvement of the reference staff in other activities judged to be of equal importance, such as workshop presentations.

The New Jersey Hospital Library Association requested a reference workshop to be presented at its December meeting. MERMLS reference staff planned and delivered the program in five concurrent sessions to an audience of 62 participants. In conjunction with the continuing education courses sponsored by the Philadelphia Regional Group/MLA, MERMLS offered a workshop entitled "Basic Reference Skills and Tools" in March. Demand for the workshop was so great that it had to be repeated the following month. The purpose of the workshops is to make librarians familiar with a core reference list developed by MERMLS. Each reference tool on the list is discussed in terms of maximizing its use in a small collection. Librarians are strongly urged to obtain the items on the list and to share access with neighboring libraries.

The reference staff continued to review selected new reference books for the monthly *MERMLS News.* The intent is not necessarily to recommend these books for purchase but to provide an awareness of potentially useful sources of information for which the reference staff may be contacted. In addition to the book reviews, the reference staff volunteered articles covering topics which they identified as being of special concern to librarians in the Region.

It cannot be overly stressed that reference service is a fundamental, highly integrated part of the regional medical library service offered to this Region. Reference activities cross all boundaries, making it difficult at times to say where reference leaves off and another activity, such as education and consultation, begins.

MEDLINE Network Management. The MERMLS MEDLINE Advisory Committee underwent a name change but not a change of responsibilities in the charge it received from the MERMLS Governance Board. The Committee, now known as the MERMLS Committee on MEDLINE Coordination, reports directly to the Board and remains responsible for acting on proposals from prospective MEDLINE Centers, planning for the continuing education of the Region's MEDLINE analysts, and making recommendations on the network management of on-line services.

The regional office responded to ten requests for MEDLINE application kits during the past fiscal year. Only two institutions actually followed through and made application to become MEDLINE Centers. One of those applications will be reviewed in the coming year. The other, from the Institute for Medical Research in

Camden, New Jersey, gained the endorsement of the Committee and shortly thereafter was admitted to the MEDLINE network by NLM.

A standard MEDLINE statistical reporting form was approved by the Committee and distributed to the 15 Committee members for trial use before being distributed to the remaining 19 MEDLINE Centers in the Region. Statistics gathered from the forms have been included in quarterly reports to NLM since the second quarter of the fiscal year. The form charts the number of searches performed in each data base category by the number of searches performed for each requester category. Minor revisions have been made to the form as dictated by experience. It is interesting to note that one of the most active MEDLINE Centers in the Region is not located at a medical school or in an urban area but at the Geisinger Medical Center in Danville, Pennsylvania. Statistics indicate that 18 percent of all searches done in the Region are performed for outside users.

Newsletter announcements as well as direct mailings to individuals were successful in scheduling a full complement of MEDLINE and other data base demonstrations in the Region. Throughout the year, a total of 472 people, 141 more than in the previous year, attended demonstrations. The College of Medicine and Dentistry of New Jersey asked to be notified of demonstrations to be presented in southern New Jersey. CMDNJ Staff participated in one joint demonstration, preparing for the day when this may be their responsibility.

Extension Service. The education, training and consultation program of MERMLS operates at two levels. The centralized portion is carried out by the MERMLS Extension Librarian who also provides direction and support for the decentralized portion. The decentralized portion is carried out by the librarians who participated in the 1975 Leadership Institute. Over the past year, requests for information and guidance from hospital administrators and librarians have been responded to by MERMLS as usual. However, in situations where it was felt that a more immediate and continuing resource person could be of significant value, the requester was given the name of the nearest Leadership Institute participant. In return, the participating local librarians have called upon the Extension Librarian when problems have been lengthy or complex or have involved a specialized area such as the preparation of a grant application.

MERMLS strongly encouraged all Leadership Institute participants to attend the week-long MERMLS Program for Educational Planners as further preparation for the role they are assuming. MERMLS could offer them no financial aid, but five of the group along with the MERMLS Extension Librarian attended the Program held in Boston.

A group meeting of most of the Leadership Institute participants was held in Minneapolis in connection with the Medical Library Association meeting. A suitable mechanism for providing documentation of the activities of group members was among topics discussed. Approved was a reporting format similar to that used by the Extension Librarian. The first quarterly Composite Leadership Activities Report was appended to the fourth quarter report of MERMLS to NLM.

Future planning includes the development by the Extension Librarian of workshop materials in basic medical librarianship to be distributed to the participants of the Leadership Institute. They will then be expected to conduct introductory level workshops in their own geographic areas. The Committee on Extension Services is expected to be instrumental in identifying the training

programs to be developed. It is hoped that the "core" group of education/training materials discussed by NLM before the February RML Directors' meeting will also be available.

An effort was made by MERMLS staff to reach all geographic parts of the Region with consulting visits. The breakdown for the year was as follows: eastern Pennsylvania, 16; central Pennsylvania, 7; western Pennsylvania, 9; Delaware, 1; New Jersey 12. The number of visits to each geographic section is believed to be fairly proportional to the number of health science institutions located in those areas except in the case of southern New Jersey. The Southwest New Jersey Consortium for Health Information Services received proportionally more visits because of its status as a consortium model for the rest of the Region.

MERMLS staff attended 50 meetings of local, state and regional groups and actively participated in many of these programs. The Extension Librarian is a member of the Continuing Education Committee of the Philadelphia Regional Group/MLA and of the national Committee on Health Sciences Library Technicians.

The Region produced a relatively small number of NLM Resource Grant applications during the year. One improvement Grant was approved but as yet has not been funded. Eight Project Grants were submitted, with one deferred and three approved but waiting for funding. Plans have already been made to use the *MERMLS News* to focus more attention on sources of grant support, and to encourage more institutions to try for grant funds.

Publicity. The monthly six-to-eight-page *MERMLS News* reaches an audience of approximately 800 institutions and individuals. It is the primary formal communication medium in the Region. MERMLS staff writes most of the material which appears in the newsletter. However, contributions are actively solicited from all its readers. For more than a year, Gertrude Lorber, Librarian at the Geisinger Medical Center, has contributed the regular feature "Reading Tips for Hospital Administrators". Other significant contributions through the year were: "Strategies and Economics of Obtaining Out-Of-Print Medical Periodicals," furnished by the Serials Department, College of Physicians; "In Memoriam: Carroll F. Reynolds, 1910-1975," furnished by Laurabelle Eakin, Librarian, the Falk Library, University of Pittsburgh; "A Report: One Consortium's Move Toward Journal Rationalization," furnished by Marie Thompson, Project Director, Southwest New Jersey Consortium for the Health Information Services; and "Brief Bibliography on Personal Filing Systems," furnished by John Timour, Librarian, Thomas Jefferson University. MERMLS would like to see even more contributions in the future to strengthen the newsletter as a forum for sharing ideas.

Two mailings were made in the past year to increase awareness of the services available from MERMLS. The first mailing was made to members of the Hospital Association of Pennsylvania who were not members of MERMLS. A cover letter explained that the hospital was not taking advantage of the services available from MERMLS and encouraged the administrator to have the enclosed quota questionnaire completed and returned to establish membership. Similar mailings were not required for Delaware and southern New Jersey since almost all eligible institutions in those states have joined MERMLS. The mailing to hospitals in Pennsylvania brought a 54 percent return with 19 hospitals added to the network.

The second mailing was made to institutions belonging to MERMLS but showing little or no use of the document delivery service. A questionnaire was

included to determine whether the lack of use was because: (a) the institution needed more information from MERMLS about the service; (b) the institution's staff had not generated requests for documents not available in their own institution; (c) the institution had no one to assume responsibility for filling out the interlibrary loan requests and sending them in; (d) other (to be specified). The institution was then asked if it wanted to continue to receive quota stamps and the newsletter. The results of this survey were most encouraging. A total of 115 questionnaires (70%) were returned. Only 17 percent indicated that MERMLS had failed to provide them with enough information for accessing the system. The largest number (44 percent) had not generated requests which could not be filled from their own or other local resources. Another 14 percent indicated that their stamps were being used but to access libraries other than the College of Physicians or its subcontractors. Almost all wanted to go on receiving stamps and the newsletter. The questionnaires from the 17 percent who indicated that they needed more information were sorted geographically and sent to the nearest Leadership Institute participant for follow-up.

Conclusion. The Meadow Report emphasized that the chief value of a plan lies in its formation, not in the end product which may never be implemented. A plan is developed on the basis of information gathered at the time of writing. It is impossible to anticipate future events which may require modifications or even a complete revision of the plan. The value of the planning process is that it equips planners with a more thorough knowledge and understanding of their environment, and prepares them to deal better with transition.

MERMLS Production 1974/75-1975/76

Service	1975/76	1974/75
Document Delivery		
Received	67,068	64,410
Referred	12,404	11,635
Returned	1,934	2,025
Rejected	1,665	1,431
Filled	51,065	49,319
Fill rate	78%	78%
Filled, 0 day	62%	82%
1-4 days	94%	99%
Cleared, 0 day	43%	64%
1-7 days	85%	100%
Reference		
Quick reference questions	4,746	6,004
Reference searches	1,284	2,178
Bibliographies (manual)	96	106
Training & Consultation		
Workshops	6	12
Meetings & consultations	95	102
MEDLINE orientations	24	15

Whether or not all of the plans presented in the RFP Response are implemented, the planning process has been beneficial.

June Fulton, *Director*
Mid-Eastern Regional Medical Library Program

MEDICAL DOCUMENTATION SERVICE

This year's statistical summary of Medical Documentation Service activities reflects a continuing shift in the types of services performed. Although the number of SDI (Selective Dissemination of Information) clients has decreased slightly, the variety and depth of services provided for each has increased, as have those for non-SDI clients as well. The department is also becoming a major service center for the College, with the acquisition of new printing and mailing equipment.

SDI Services. This function continues to provide "personalized" service to clients in the pharmaceutical industry and related fields. All serials received by the Library are scanned

by scientifically and linguistically skilled members of the professional staff for material pertinent to the client profiles. A profile may include one or a number of related chemicals, products with similar components, or pharmacological classifications, drugs, concepts or other health-related areas of interest. Each profile specifies the type(s) of publications the client wants selected (all mentions of the profile subject(s), human studies only, English language only, adverse reactions, etc.). In addition to citations of the articles selected, a client may require translations of foreign titles or articles, annotations and/or keywords and in-depth indexing. Most clients require and receive document delivery of selected articles, and a few receive magnetic tapes programmed to be compatible with their own in-house data systems.

These activities, along with more in-depth data extraction and indexing done for some of the clients separately from the SDI process, require, at one stage or another, the effort of almost everyone on the MDS staff: The Biomedical Literature Scientists in scanning, keywording, indexing, annotating, and translating full articles when necessary, are coordinated by Dr. Harriet Rockwell. Technical aspects of editing the input to data transmission terminals, as well as References Services, are coordinated by K. Bernice Odom, assisted by Charlotte Duvally and Alice Plotkin, Biomedical Literature Scientists on staff, who control the data processing flow and do the actual copy-editing. The operational aspects of document delivery and daily client requests were coordinated by Mrs. Odom pending Miss Marilyn Hagist's joining the staff in this supervisory capacity.

As an interesting footnote, it may be mentioned that MDS's clientele is becoming truly international, with an agreement nearing conclusion with a Japanese rehabilitation institute for complete SDI service. As another footnote, as of the end of the fiscal year MDS has almost completed negotiations with three additional SDI clients, one of which may well become a major client in all services.

Abstracting Services. The long-term contract with BIOSIS to provide abstracts of foreign-language articles for *Biological Abstracts* was terminated at the end of 1975, after a phase-out period during which BIOSIS developed in-house abstracting capabilities or cooperative agreements with other abstracting services. As can be seen from the statistical table, the loss was more than made up by increased abstracting activity related to SDI, indexing, the *Cystic Fibrosis Quarterly Annotated References,* and a short-term contract from the library of the Medical College of Pennsylvania for abstracting foreign articles on women physicians for an annotated bibliography on "Women in Medicine".

Retrospective Literature Search Services. Requests for literature search services continued to increase in the past year, from the pharmaceutical industry, the legal profession, the medical profession, and other allied health or industrial sources. Our clients appear to be our best advertisement, for MDS has received unsolicited requests this year from other sections of the United States and from as far away as Colombia, South America. K. Bernice Odom, Coordinator of SDI and Reference Services, was responsible for this activity, with assistance from other members of the professional staff.

The agreement with Informatics, Inc. for MDS to act as a Clearinghouse for the EXCERPTA MEDICA ON-LINE DATA BASE was terminated late in the fiscal year when Informatics discontinued its arrangement with the European headquarters of EXCERPTA MEDICA and the on-line service became unavailable in this country.

Reference Services and Document Delivery. Document delivery has become an important part of SDI service, as clients recognize the convenience of a "single-source" total service. Telephone and telecopier (facsimile transmission over telephone wires) services provide rapid transmittal of requests for and delivery of documents. The latter is increasingly used by several clients for transmitting longer lists of documents required more accurately and efficiently, cutting down on mail travel time. Urgently needed documents can be transmitted to the client by this route, avoiding delay in the mails, and this convenience has become increasingly valuable to those clients in outlying districts from a source library. Activities of the Reference Services staff which handle this growing work-load are coordinated by K. Bernice Odom, and will, as stated before, be supervised by Marilyn Hagist in the new year.

Data Extraction, Analysis and Indexing. These functions continue to increase in volume, and should increase even more rapidly in the coming year, as we will be indexing all SDI material for some of the already existing clients with the addition of one of the largest pharmaceutical manufacturers in this country. Two of the new clients will also require abstracts and translated titles. Indexed and abstracted material produced by the MDS staff of indexers is delivered either by magnetic tape in format compatible with the client's storage and retrieval system, or by means of coded sheets derived from literature analyzed by MDS, and presented in the categories of data classes of information specified.

Translations. MDS continues to do all translations for one of its clients, which eliminated their own in-house translating group this year, and translates on request for other regular clients and for the translating activities related to SDI and indexing functions.

Editing and Publishing Activities. The Director of MDS continues as Editor of the *Drug Information Journal* with Dr. Harriet Rockwell as Associate Editor and Mrs. Odom as Editorial Assistant and Advertising Manager. The papers for this quarterly journal and its supplementary issues are edited and graphics are prepared for the printer on MDS equipment and with MDS staff. Also continuing is the preparation of *Cystic Fibrosis Quarterly Annotated References,* for which MDS selects articles and provides abstracting and indexing as well as photocomposition services under the auspices of the Cystic Fibrosis Foundation. *The Fellows' Forum* is now typeset and printed in-house and MDS has taken over preparation of copy for the *Transactions & Studies of the College of Physicians,* beginning with the July 1976 issue.

"Current Readings in World Literature," the bibliography of articles of interest to dermatologists prepared by MDS and published ten times a year in the *International Journal of Dermatology*, has attracted favorable attention. Requests for document delivery have been received from a number of foreign countries as well as from the U.S. Although the original sponsor has discontinued support of the program, it is being continued as a public relations effort while a replacement is sought.

MDS acted as publisher for Dr. Claire Gilbride Fox's book "The Fairman Rogers Collection on the Horse and Equitation: A History and Guide," a catalogue and classified subject index to this collection in the library of the University of Pennsylvania School of Veterinary Medicine. In addition to collaborating on design and layout of the book, members of the staff provided major assistance in solving bibliographic problems and editing the material, as well as photocomposition and other technical aspects of preparing the copy for printing and

Three Year Comparative Statistics of MDS Activity

Service Rendered	Jan. 1, 1974 to Dec. 31, 1974	Jan. 1, 1975 to Dec. 31, 1975	July, 1975 to June 30, 1976*
Scanning references reported (SDI) — selective dissemination of information	21,130	21,918	19,785
Number of SDI profiles	104	117	101
Number of clients served in SDI	21	23	20
Abstracts			
English	250	275	1,550
Foreign	5,100	4,300	5,918
Total Abstracts	5,350	4,575	7,468
Retrospective Literature Searches (Manual)	170	230	257
On-Line Data Base Searches (Computer based)		35	35
Interlibrary loan	238	331	289
Telephone reference service (Recorded by number of requests)	2,258	2,536	2,270
Telecopier service (No. of requests)	86	112	200
Indexing and data analysis	3,430	5,160	6,410
Editing and medical writing	20	32	36
Photocomposition	58	74	85
Translations	156	178	184
Promotional printing (brochures, meeting notices, programs, etc.)	24	48	75
Document delivery requests	28,012	29,714	27,465
Photocopy exposures (all functions)	353,104	565,842	453,971
Publications	9	11	20
Data Processing	24	30	61

*Change in reporting to fiscal year.

binding. The assistance of the Director, Alice Plotkin and K. Bernice Odom were acknowledged by the author in her introduction to the book.

New Activities. In the last few months of the year, MDS has acquired new photocomposition equipment, capably utilized by Patricia A. Gardner and Rosalyn Long (a video-composition CRT terminal which generates paper tape which is machine readable and computer compatible). In addition an Addressograph-Multigraph electrostatic print press with sorter and cutter, as well as perforator, and a complete set of mailing equipment including folder, nester and postage meter, were added to the in-house capabilities of self-sustaining services. With the advent of this equipment the department has been assigned responsibility for photocomposition and printing of most of the brochures, meeting notices, programs, forms and other printed matter for all departments of the College, metering daily outgoing mail and preparing all bulk mailings such as the bi-monthly *Fellows' Forum* and other enclosures. Photocopying for most departments (Executive Offices, Restoration Fund, Comptroller, Museum, Continuing Education and, of course, MDS) is also done in MDS by the department's own staff members utilizing MDS equipment for small jobs, or by MDS staff for the larger ones.

As noted above, MDS is taking over preparation of the *Transaction & Studies*, starting with the July 1976 issue. During the past year we have computerized and are now maintaining the T & S subscription file, along with a data base housing pertinent information as required, and programmed for reports and statistics on Fellows and Friends as needed by the College activities. Alice Plotkin has had primary responsibility for this function, and with this computerized data base, labels, envelopes or other types of sorts can be accomplished, either Zip-coded or sorted alpha-numerically as required. Included in the data base of Fellows is information about electoral year, date of birth, various mailing addresses, specialty, class of membership, dues information (used to generate annual dues notices) and other gathered information as deemed necessary.

The Director of MDS continues her outside activities as a member of the Board of Directors for the Drug Information Association; Treasurer of Documentation Abstracts, Inc.; member of the Marketing Committee and World Data Base Advisory Committee for NFAIS (National Federation of Abstracting and Indexing Services); and has been appointed Operations Chairperson for the Drug Information Association 1978 Annual Meeting to be held in Philadelphia, as well as a member of the Program Committee for the NFAIS Annual Conference in Philadelphia in 1978.

Staff members lost to MDS during the 1975/76 year included Dr. Carmen Candelori, Elaine Curcio, Kenneth Garland, Ellen Grimison and David Tester. Added were Linda Halvorsen, Kenneth Cotton, Glendon Guy and David Stasney. Marilyn Hagist, as previously mentioned, will join the staff in the early Fall of 1976 as Office Manager, to relieve the Director and Coordinator of the SDI and Reference Services of some of the scheduling and administrative load in the operational aspects of MDS services.

Alberta D. Berton, *Director*
Medical Documentation Service

CURRENTLY RECEIVED SERIALS

	Subscription	*Gift*	*Exchange*	*Total*
U.S.A.	584	320	42	946
Western Europe	845	59	113	1,017
Eastern Europe	174	30	53	257
United Kingdom & Eire	194	14	18	226
Asia (including Japan)	87	57	72	216
Latin America & West Indies	40	31	50	121
Canada	22	3	11	36
Pacific (Australasia)	8	3	9	20
Africa	4	6	11	21
Grand Total 1975-76	1,958	523	379	2,860
Grand Total 1974-75	2,021	589	435	3,045

Titles are included in this count only if issues were received during the period July 1, 1974 through June 30, 1976.

New Titles: A total of 88 new serial titles were added from July 1, 1975 to June 30, 1976. (94: 1974-75).

Cancellations: A total of 167 serial titles were cancelled from July 1, 1975 to June 30, 1976.

Percentage of Index Medicus journals subscribed to: 73%

23,691 separate issues were received, checked in and shelved. (24,706: 1974-1975).

STATISTICAL SUMMARY

Inventory

	1975/76	1974/75
Accessioned items:[1]		
Incunabula[2]	421	421
Manuscripts	1,401	1,391
General	276,043	272,003
Pamphlets	11,871	11,469
	289,736[3]	285,284[3]
Unaccessioned items:[4]		
Reports	28,822	28,822
Theses	65,688	65,277
Reprints, leaflets, microfiche and non-print	228,985	228,975
	323,495	323,074

Accessioned acquisitions:

1975/76: 4,452 volumes (2,763 by purchase; 1,473 by gift; 216 by exchange) (books, 1,651; periodical volumes, 2,399; pamphlets, 402)

1974/75: 3,640 volumes (2,083 by purchase; 1,381 by gift; 176 by exchange) (books, 1,395; periodical volumes, 1,980; pamphlets, 265)

Unaccessioned acquisitions:

1975/76: 421 items (theses, 411; microfiche and non-print, 10)

1974/75: 288 items (theses, 259; microfiche and non-print, 29)

[1]Accessioned items in this library comprise the total number of bound volumes and such unbound pamphlets as have been cataloged as separate bibliographic units regardless of their size.

[2]The Library owns 423 incunabula, but there are two instances of two bound together, reducing the number of accessioned volumes.

[3]Included in these figures are the following collections which are on permanent deposit in the Library: Gross Library, 3,976 accessioned items; Parry Library of the Obstetrical Society of Philadelphia, 217; Mutter Museum, 200.

[4]Only numbers for dissertations and cataloged microfiche and non-print materials have been added to figures established in previous years, as it has not proved feasible to keep accurate records of the materials, not separately cataloged, which are frequently added to the collection.

READERS' USE OF THE LIBRARY

LIBRARY HOURS: The Library was open from 9:00 A.M. to 5:00 P.M. Monday through Friday. The following legal holidays were observed: Thanksgiving, Christmas, New Year's, Washington's Birthday, Memorial, Independence, and Labor Days.

	1975/1976	1974/1975
Visitors		
Reading room	5,441	5,715
Periodicals room	1,147	1,240
TOTALS	6,588	6,955
Intra-mural circulation[1]	16,886	21,349
Extra-mural circulation[1]		
Original loans		
Regional	1,943	2,058
Registered institutions	4,227	4,130
Registered Individuals	2,538	2,131
TOTALS	8,708	8,319
Photocopies (articles)		
Regional	34,345	33,772
Library	19,577	22,073
TOTALS	53,922	55,845

[1]Circulation figures are no longer recorded to differentiate between use of books and journals. Through the years the ratio of journal to book circulation has been approximately 3 to 1.

INSTITUTIONAL REGISTRANTS

The College Library acknowledges the support received from the registration fees of the following institutions which share the operational costs of the College Library:

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Children's Hospital
Cooper Hospital
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Albert Einstein Medical Center Medical Staff
Albert Einstein Medical Center (North. Div.)
Franklin Institute
Geisinger Medical Center
Germantown Dispensary & Hospital
Hahnemann Medical College
Harrisburg Hospital
Hospital Survey Committee
Hospital of the University of Pennsylvania
Institute for Cancer Research
Institute for Medical Research
Krusen Research Center
Lankenau Hospital
Medical College of Pennsylvania
Memorial Hospital of Roxborough
Mercer Medical Center
Mercy Catholic Medical Center
Metropolitan Hospital
Mount Sinai Medical Center (Miami Beach, Fla)
Parkview Hospital
Pennsylvania College of Podiatric Medicine
Pennsylvania Hospital (The Institute)
Philadelphia College of Osteopathic Medicine
Philadelphia General Hospital
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Endo Laboratories, Inc.
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Extracorporeal Medical Specialties, Inc.
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Freedman, Borowsky & Lorry
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DONATIONS

The number of donors to the current collection during the year was 82. The Library is indebted for large gifts of books, pamphlets and unbound periodicals to the following: American College of Physicians, Dr. and Mrs. Thomas Butterworth, Mrs. E. E. Cederquist, Ciba Pharmaceutical Co., Dr. John Kapp Clark, Commission on Professional and Hospital Activities, Dr. Milo David Leavitt, Jr., Dr. Lawrence C. Parish, Dr. Samuel X Radbill, Dr. Jonathan E. Rhoads, Mrs. Ida Samuel and Dr. Katharine B. Sturgis.

Various publishing houses have presented volumes as follows: F. A. Davis Company, 11; Lea & Febiger, 23; J. B. Lippincott Co., 59; W. B. Saunders Co., 116.

Other donors were: American Academy of Dermatology, American Board of Dermatology, Mr. Winslow Barrigan, Dr. Herman Beerman, Dr. Arthur R. Birt, Mrs. Martha Lee Biscoe, Mr. Clifford Brenner, Dr. J. Lamar Calloway, Canadian Dermatological Association, Cancer Research Institute (N.Y.), Commonwealth of Pennsylvania, Dept. of Health, Mr. Fritz Danga, Dr. Farrington Daniels, Jr., Mr. Robert Dato, Mr. and Mrs. Jack Davis, Dr. Thomas M. Durant, Mr. Donald Flathman, Dr. W. James Gardner, Miss Mildred Gray, Hahnemann Medical College Library, Mr. Joseph Handleman, Mr. Robert D. Hamilton, III, Dr. Benjamin L. Hayllar, Hoffman-La Roche Inc., Hospital Association of Pennsylvania, Dr. John P. Hubbard, Dr. John F. Huber, Institute of Medicine of Chicago, Institute of Medicine, Washington, Institute for Research in Mental Retardation, Lankenau Hospital Library, Dr. Morris Leider, Carol A. Lindeman, Mrs. Herbert Lipschutz, Dr. Clarence Livingood, Dr. Gordon M. Meade, Medical College of Pennsylvania Library, Dr. Emily H. Mudd,

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Dissertations in the number of 460 have been received on exchange from the following European Schools of Medicine: Karolinska University and the Universities of Copenhagen, Erlangen, Geneva, Lausanne, Leiden, Liege, Lund and Uppsala.

The *Transactions & Studies* was sent, either in exchange or as gift, to 384 organizations and institutions.

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*Glenys A. Waldman, Cataloguer

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TRANSACTIONS & STUDIES
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Volume 44
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Two Hundred Years of Children*

by LEONA BAUMGARTNER, M.D.†

Three hundred fifty million children have been born in this country since the American Revolution. I want to talk about these children from a very broad point of view. Henry Sigerist once said, "Medicine is but one aspect of the great civilization of a country — and that is always determined by the general cultural conditions and by an underlying philosophy." Though we as doctors seldom recognize it, as Virchow said years ago, "medicine is a social science, anthropology in its widest sense." Our aim as physicians is not just to cure individual patients; it is — must be — a social one.

For this reason I propose to paint a broad picture of the country as it has developed since colonial times: the lives of the children themselves, not just their illnesses; how adults viewed and treated them; their education; and their medical care. I shall focus more on middle-class white families since these are the ones which history documents more fully. This is manifestly unfair, for children of other economic and ethnic backgrounds have suffered more and continue to do so.

Children made up a large part of the population in colonial times. Over one-half of the Pilgrims, for example, were children. In 1790 over 97% of families were living on farms. Wide variations in attitudes, beliefs, and the economy existed in the different parts of the country even as they did within the separate areas themselves.

Boston was a Puritan town, a theocracy, so to speak. Its children's books dwelt on death. Witch hunts were common. A strong Calvinistic streak made parents believe that to hear of death, violence, and the evils of sex was good for children. The more children thought and heard of such matters the better, for they were all born as little sinners. Remember, Calvin had said that if a child disobeyed his parents he was, according to the Lord's commands, "to be put to death." There was little visible gaiety. Mother Goose was not to appear until after the eighteenth century.

New York had many of the characteristics of a Dutch town. St. Nicholas Day on December 6 was a great festival, even as it is in Holland today. Not much English was spoken, and teaching in the schools was in Dutch until after the Revolution. These largely Dutch settlers were religious, too —

*Kate Hurd Mead Lecture XXV, The College of Physicians of Philadelphia, 19 May 1976.

†Formerly Professor of Social Medicine, Harvard Medical School, Countway Library, Boston, Massachusetts.

Anglicans as well as Calvinists. In 1654, at the time of the Jewish New Year, twenty-three Sephardic Jews from Recife, Brazil, landed in New York and established their own school. Ways with children were much more permissive in New York than in Puritanical Boston. Schools were coeducational. There was less emphasis on learning. Women could buy and inherit real estate, a practice prohibited in Boston. New Yorkers danced and sang, and enjoyed many types of entertainment. Special entertainments for children were not uncommon. Somehow, New Yorkers were more citizens of the world. By 1667 they were annexed to England, but the Early Dutch influence left its mark for more than a century.

The southern areas (Virginia, Maryland, the Carolinas) were more like New York than Boston and had, of course, their black slaves. There were indentured servants in the other areas, too, sometimes criminals or sometimes just poor persons who were sold to righteous Northerners who needed their labor.

Germans were the first sizeable group of non-English to come to the new land across the Atlantic and they settled largely in Pennsylvania. After the German uprisings of 1848, the famines in Ireland and Scandinavia, and the pogroms in Eastern Europe came the hordes of immigrants of the middle and late nineteenth century. Among them were those who occupied the notorious slums of New York and Boston. The late nineteenth and twentieth centuries saw the arrival of the Orientals, the Puerto Ricans, the Mexicans, Cubans, Latin Americans, and others. The intellectuals who left totalitarian countries before World War II came, as well as the refugees of that war. The last group to join the melting pot are the Vietnamese. What a wonderful heritage and how our gene pool has been enriched in our melting pot!

Children from these families all lived different lives, as did the various Indian tribes they replaced. And even though the U.S. has been known as the great melting pot, there are, and always have been, vast differences in ethnic and economic groups. We have built up our own social classes, replacing the ones previously scorned abroad. Ours are based for the most part on economic status.

ATTITUDES TOWARD CHILDREN

What were the attitudes toward children? Until the twentieth century with its scientific studies, they were seen more or less as pint-sized adults. They were dressed like them, as the watchers of that remarkable TV series, "The Adams Chronicle," will remember.

In earlier days it was believed by many that they were born with sin; only later did the idea that they could be molded by their parents, or the environment, arise. They were seen as useful, their labor as necessary to a sparse but growing economy. Attitudes varied according to the ethnic group, the part of the country, the educational and economic status of parents.

In general, parents were held responsible for their children, with the state providing very little. The first public school was opened in 1641 in Massachusetts with the "three Rs" as the basis of what was taught. Hours in school and in study were, from our point of view, very long — and the results in some children were scarcely believable. The daughter of a president of Harvard, for example, knew her alphabet at 2, read Cicero and Homer in the original, and at 14 acted as her father's hostess. A twelve-hour day at book learning was not unusual for many children, followed by or preceded by farm or household chores. Even the wealthier often added "after school tutoring" to the regular school curriculum.

Children moving westward in pioneer days got little formal schooling, at best a few winter months in a one-room sod house with all

grades in one room. Their daily life, however, was a continuing learning experience.

For the most part children worked, except the very rich or those on Southern plantations where the whites were essentially waited on by the black slaves. Most white children had a mammy who took over for their own mothers, who were usually too busy socially to look after the children. The word "slave" was infrequently used except in the markets where they were bought and sold, and these were far from the pleasant plantations where the children lived. But farms or plantations were dependent on black adult and child slave labor.

The Revolution of 1776 brought many changes. In the new country there was need for better communication among the states, so roads were built and made more passable in all kinds of weather. Local newspapers multiplied. Commerce grew among the states, as well as across the sea. American textbooks (spellers, an American dictionary, an American history) for American children were written. "Washington" was one of the first words a child learned. A president of Princeton, Dr. John Witherspoon, became the authority on child rearing instead of John Locke of England. The differences between individual children became more generally recognized — "great diversity in temper and disposition," as Witherspoon put it — and also differences in "the penetration, prudence and resolution of the parents."

The nineteenth century was certainly ambitious for its children. The demand for children's books rose. Thomas Cone of Boston has done much to reveal society's attitude toward children by collecting and analyzing these books. Many of them were educational, like those promoted by progressive educators in later years. Magazines for parents appeared by 1830, but education in these earlier works seems more concentrated on formation of character and good manners than acquisition of knowledge. Children were universally considered little adults, to be seen and not heard.

As already indicated, authoritarianism was characteristic of home and school for many years. But remember it was the rebels — rebels from established churches and from religious persecutions — who came to America. They finally rebelled here, too, and after the Revolution they demanded more for their children.

In early America the common man was self-made and the "three Rs" school emphasized. The public school system had its beginnings between 1830 and 1850, under the leadership of Horace Mann and a host of others. They were responsible for convincing legislators of the worth of the common public school.

The broader functions of the school were limited by two factors: the first was the popular belief that political thinking, wisdom, and training for citizenship had no relationship to religion or moral or philosophical outlook or educational background. The second was that much education took the form of evangelical frontier churches, supporting education for literacy, so that people could read the Bible. Cheap religious tracts were plentiful. Evangelicalism encouraged belief in ultimate knowledge by emotional revelation. It also planted in individuals a certain lack of trust of knowledge of other areas. A kind of anti-intellectualism was further supported by the popular religious belief that too much learning was a "device of the devil." Devotion to the Bible encouraged authoritarianism in education and fostered acceptance of information rather than development of critical and analytical ability. All this served to stifle curious minds.

The first Sunday School was opened in Philadelphia in 1791, largely, it is said, because the Episcopal bishop grew tired of

hearing the noise made by the children as they played outside. A tremendous rivalry grew up among different sects, each of which thought it had *the* truth and did not want any influences on its children contrary to whatever religious beliefs it was instilling in them. As communities grew and became more heterogeneous, the only "safe" school to which all sects could send their children was one which was neutral. It was largely from these political and social influences that the neutral public school developed, teaching the "three Rs" and avoiding at all costs the forbidden topics of religion and politics. Individual grades in school came into general acceptance after the Civil War. It was necessary to measure what a child knew to promote him. Since facts can be measured and not the development of character, schools emphasized memorizing facts.

Standardization began to creep into the school system. Teachers were to follow certain courses, use approved texts, and give standard exams. Students learned facts about government and history but not how to be a good citizen. Value problems were avoided; they could not be measured. Impartiality was highly valued. Teachers were to be neutral and aloof, and avoid opinions and beliefs. Emphasis was on discipline and authority. Traditional subjects were taught in a formal atmosphere and students learned little of the world around them.

For years, high schools and colleges were privately supported and, of course, many sons of richer families went to the Continent for their further education. Many of the earlier doctors were trained there. Thus they came in touch with the liberal tradition of the Greeks and Romans which somehow had survived through the Middle Ages and flowered again in the Renaissance. High schools taught Latin, Greek, literature, and history. Students learned to read, write, and speak effectively and to follow a Judeo-Christian ethic. They were encouraged to work hard. In these schools a more philosophical approach was taken and the intent of educators was to pass on the traditions and culture.

But to understand what was happening to children it is necessary to look at what was happening in the economic and social life of the country.

In 1776 there were some 2.5 million people, with some rich merchants and planters but mostly independent farmers, shopkeepers, artisans, and professionals; below them socially and economically were tenant farmers, slaves, and indentured servants. There had been moves for independence long before that "shot heard around the world" was fired at Concord. Many people had come to the New World for liberty; changes were important to them. They grew impatient with more and more taxes. The Tea Tax seemed to be the last straw and so came the rebellion of 1776.

But that did not halt the flow of ideas and materials from England and the Continent. An important large import was the Industrial Revolution, begun in 1773 with the invention of the flying shuttle which cut weaving time in half. The power loom invented by Cartwright, a clergyman, came by 1789 and speeded up the process. Then in 1793 the American, Eli Whitney, invented the cotton gin. The mechanization of the textile industry was almost complete. And thus came the factory system and the mill towns.

The first steam engine had appeared in 1769, and the country was quickly opened up by means of better roads, canals, and finally railroads. The mechanization of agriculture came with the McCormick reaper. Again children's lives changed, as did those of all who lived on farms. When the effort of one man's muscle no longer equaled another's, a new class, the owners of the machines, the bourgeoisie, took the spoils. Before long children were brought in to work in factories,

to become slaves to machines. In mines their work was even harder. Slowly they were deprived of even the small amount of education they had had. This period, extending to 1917, when the national child labor amendment passed, was one of the most dismal for children in the history of the Western world.

Inevitably, new economic and social theories developed. The laissez-faire theory and enlightment of the eighteenth century and the concept of supply and demand of Adam Smith's *Wealth of Nations* (1776) could still be found suitable by the bourgeoisie. The idea that the poor had only themselves to blame because of their incontinence became a common one. Darwin's theories of the survival of the fittest added other concepts that further supported the idea of the greatest good for the greatest number. Each individual should pursue his own enlightened self-interest. So there was little use for governmental or other help; the laissez-faire system of the eighteenth century could be and was largely maintained.

But not for long. The liberals, believing that the Industrial Revolution had created a need for controls, began to call for restrictions on industrialists, for profit sharing, long term contracts, etc.

The Industrial Revolution developed differently here than it did in England. We had no nobility and less of an entrenched aristocracy to overcome. We were not as compact as England, and we were absorbed in opening up our frontiers. Finally, with the Civil War we were rent asunder, and the problems associated with slavery have continued to plague us for many years.

We had President Andrew Jackson, a leader arising from the people, who attacked the conservatives. Somehow we seemed to slide through the Industrial Revolution with fewer bruises than England. We copied many of the reforms which first occurred in England; the Chadwick Report there and the Shattuck Report here are examples. Their Poor Laws preceded ours.

The turn of the century brought many new institutions, reforms, and leaders: the settlement house, the muck-rakers like Lincoln Steffens, the philanthropists like Jane Addams, Julia Lathrop, Florence Kelley, Jacob Riis. President Theodore Roosevelt himself became a "trust buster." The functions of charity, so long performed largely by the church, began to be taken over by the State. The great depression of the 1930s made this inevitable.

For a hundred years or more another trend in social and economic affairs made vast differences to American children. This was the rise of modern science and technology, bringing not only the mechanization of manufacturing and agriculture but the development of the automobile, telephone, radio, television and airplane, new cures and preventives for disease, the developments that made modern sanitation possible, and others. All classes of the population were enchanted with the opportunities these developments made possible. But we still have to learn whether we have the wisdom to control some of the forces let loose. Pause for a moment to think of nuclear energy, genetic manipulation and the environmental changes which some new scientific discoveries have already made possible.

One marked innovation in the twentieth century was the introduction of studies of actual children and their behavior. A series of research studies concentrating on children themselves (the Iowa Child Welfare Studies, studies at Harvard by Harold Stewart, at Denver by Al Washburn, by Fels at Yellow Springs, by Gesell and later Senn at Yale, at Oakland by the Stoddards) all brought new *facts* about the growth and development of children. These were used particularly by educators and physicians. Some formed the

basis of the 1930 White House Conference on children, which helped establish pediatrics as a major sub-specialty in medicine. Some tried to record everything that happened to a child. One amusing incident is the story of retrolental fibroplasia. When the causal relation of this disease to oxygen concentration in the incubator was suspected, the earlier developmental studies were reviewed. Apparently *everything* had been recorded in the life of the premature in the incubator — except the oxygen concentration in the incubator.

These detailed studies had one great effect. They clearly established the individuality of each child and gave a *raison d'etre* to our child-centered culture. Others now better known have followed (by Eric Erikson, Jerry Bruner, Piaget, B. K. Skinner), but the influence of Lawrence K. Frank and Laura Spellman of the Rockefeller Foundation in establishing these early centers for scientific study of children demands special attention.

So, too, does the development of the Children's Bureau, established in 1912 by the Federal government to investigate and report "upon all matters pertaining to the welfare and child life among all classes of our people."

It had taken nine years of effort by Jane Addams, Lillian Wald, Florence Kelley, Edward Devine, and other "child savers", as they were called, and organizations like the National Child Labor Committee and the Child Welfare League, to achieve this goal. The plight of dependent children had led President Theodore Roosevelt to call the first White House Conference devoted to children's problems, but the final argument was probably President Taft's, that "we have an Agricultural Department . . . spending 14 or 15 million dollars to tell the farmers, by the results of our research, how they ought to treat cattle and horses with a view to having good hogs and cattle. . . . It does not seem to be a long step or stretch of logic to say that we have the power to spend money . . . to teach how we may develop good men and women."

An appropriation of $25,640 established 15 positions and the Children's Bureau. The idea was copied in state and local governments as well as in foreign countries. Its first studies focused on infant and maternal mortality, because of the high mortality rates of these groups.

Another early activity of the Bureau was informing the public. Julia Lathrop, the first chief, used to tell a story about the hundreds of letters which arrived at her desk each day after formation of the Bureau was announced, all seeking information about pregnancy and children's problems. In desperation she advertised for someone to help. A journalist and mother of several children, a Mrs. West, who had moved to Washington because of her husband's new job, applied. She had to have work because her husband had died. Miss Lathrop gave her the letters. She returned with the suggestion that the Bureau publish pamphlets, one on maternal care and another on infant care. The latter became the government's best seller, with ten editions and forty-five million copies distributed by the end of 1961. I once had a graduate student go through these chronologically and note the changes over the years. They could be readily related to changes in scientific theory, except that they lagged a bit. The influence of Freud, for example, became clear a year or so after his ideas reached America. In later years Dr. Spock's books replaced, in part, these government publications, and examination of his editions shows similar changes. And of course, in the meantime, the many other books and magazines on child care and rearing, as well as mothers' clubs, child study groups, college courses, etc., all spread the latest, if not the best, established advice to parents. The development of a large sector of the economy concerned with children's toys,

books, shoes, sports equipment, clothes and the like also has had its influence.

EDUCATION

When America was composed of many small communities, parents personally paid for and directly controlled schools. With increasing industrialization, cities grew larger, as did schools.

In the latter half of the nineteenth century, the urban population increased sevenfold, while the rural population grew only twofold. State departments of education became more powerful. Parents now paid for schools indirectly through taxes and lost interest in school affairs. More complex school systems were more difficult for parents to understand and so the running of schools became entirely the job of professionals. Education was offered as a course of study in colleges and universities and became a specialized field of professional study and practice.

The course of educational theory and practice paralleled the course of social thought and events. During first decades of the twentieth century, society was greatly influenced by the ideas of Charles Darwin. Darwinian ideas were applied to many different disciplines — philosophy, economics, political philosophy or science, to name but a few. Sociology and psychology developed along with education as special sciences after 1900. The idea of organistic growth and development pervaded all the disciplines, and the educational emphasis switched to science and scientific studies. Courses of teaching, methods of teaching and even new ideas about the purpose of education were all taken from science. Schools became more practical, technical, even vocational, besides being more scientific in their subject matter and methods.

Just before the turn of the century, great efforts were made to study education in a scientific way. All kinds of tests, scales, and the gathering of data by surveys were tried out in an effort to develop reasonably accurate educational measurements. The people involved were Thorndike, Cattell, Binet, Goddard, Terman, and a host of others.

Not long after, another movement evolved from scientific trends, today usually referred to as "progressive education." The methods used differed greatly from those used during the more authoritarian and formal period. Some made an effort to make education into a science, some wanted to create an environment which gave great freedom to children to explore, investigate, and create, like so many small researchers in laboratories. Still others wanted to prepare children to create societies which would free them for more creative living.

John Dewey was the "father of progressive education." His writings stressed that education is a social process and the classroom should be a microcosm of the outside world. Its environment should be a richly interactive one. The teacher is a creator of learning situations, the student an investigator and pursuer of concepts. The purpose is to teach students to think and to deal with data. Classroom learning experiences should be connected and related to each other. Each experience takes up what has come before and modifies those which come after. Both internal and external conditions must be right for learning to take place.

Respect for individuality, willingness to build on the experiences of children, and informality in the learning situation were emphasized. In discussing freedom, Dewey supported the scientific method when he emphasized that although children should be given more freedom, their individuality should be respected. Planning and organization should still play an important part in the method of teaching, but not a rigid, formal organization. It has been felt by many

that the child-centered and social-reconstructionist interpreters of Dewey misinterpreted his work by placing too much emphasis on freedom and too little on discipline.

Different forms of progressive education remained in vogue for some thirty years. Between 1930 and 1950 some effort was made by humanistic scholars to modify the emphasis on science and technology. At the end of World War II, the preoccupation with the individual changed into a preoccupation with our society and the future of the nation. Again the focus in education turned away from the child and onto the subjects. All were viewed in light of what they would contribute toward making the society a more powerful one and the leader in world affairs. More attention than ever was given to science and technology.

There was little regard for the morality, ethics, refinement or enrichment of the person as a human being and individual. The differences in individuals noted were intellectual ones. When Sputnik was launched in 1958, a panic swept the country. Were the Russians really getting ahead of us? And in an effort to remain "number one," all these efforts were stepped up. The age of specialization came in full force. General practitioners in education and medicine became obsolete. Each person was encouraged to excel in one area. Excellence was the keyword of that era. A shift was made from the products of education to the process, as in the "spiral curriculum" of Jerome Bruner, which emphasized the learning of concepts to acquire knowledge from each field rather than knowledge of the field itself.

When John F. Kennedy came into the White House, this trend became more intense. Science and technology were stressed for the purpose of maintaining the U.S. position in world affairs, to beat the Soviet Union to the moon, to halt Soviet and Chinese expansion in Asia, Africa, and the Third World. In an attempt to get schools to help carry out these goals, more federal monies were pumped into education and research. The National Institutes of Health, the National Science Foundation, and the Office of Education exerted more influence on schools at all levels. They were encouraged to produce more scientific researchers and technicians. Science specialists became major influences in curriculum planning. Seven- and eight-year-old children now moved from class to class and teacher to teacher — each teacher an "expert" in his or her field. Teachers learned their subjects but not much about how to deal with children or about the growth and development of children. Students seldom had a "relationship" with "their" teacher — they went from person to person, receiving information. No teacher got to know what was going on in the students' lives, what made them tick, or really got to know them well enough to care much about them. This national obsession seemed to exclude all but performance alone as the criterion of excellence.

In the years following the Kennedy assassination, the American people came to see the reality of the Vietnam War. They opposed it in greater and greater numbers. The mass slaughter and genocide of a people in whose country our prime interests were economic and the furthering of our power and influence in Asia began to bother us, particularly the young. The one bright hope for many was the advances in civil rights.

Finally came the rebellion. It began among older students towards the middle '60s and by 1967 was in full swing. Students were tired of not being seen as people, being forced to compete for grades and excel, no matter how. They were tired of the "old morality" in which it was all right to kill as long as it was to create a rich and powerful nation, all right to cheat and lie and steal others' work so long as one

did not caught but instead became a sucessful person and excelled.

So they rebelled. Some tried to escape with drugs, music, oriental religions, travel, etc. Some left the country. Some rejected society but not America and returned to the land, where they tried to lead a more simple life, taking nothing from anyone and supporting only themselves. Others lived in small communities or communes — their own small societies — maintained themselves and hurt no other societies. Some stayed in the establishment and protested. Sometimes the establishment fought them — put them in jail, at Kent State murdered them. Those with morality fought back. Many became more militant. Others decided that since society was so worthless they would drop out and live off it in any way they could. Some of the more corrupt stayed in the establishment and made as much as they could for themselves. Others stayed and tried to fight the evil from within. For every problem there are as many solutions as there are people. A new morality grew up.

What of the children growing up then? Those with brothers and sisters in college? Those with young teachers who were part of the movement? Those with young, liberal parents? Education followed the social changes. With the Dartmouth Conference in 1966, a new age of humanism was officially ushered in. Focus on the child as a person returned. Subject matter is still important however. Educators learned from the "too progressive" before the war, as well as from those who had regarded only subject and not child, that a happy balance must be struck. Classrooms opened up. Tracking ended and heterogeneous groups mixed in an imitation of the real world outside the classroom. Learning based on the experiences of the child came back into vogue. Grading was played down to discourage competition for grades rather than real interest in learning. In many classrooms today there are discussions even among seventh and eighth graders of political, moral, and ethical issues. You may be sure the discussions of these 12- to 14-year-olds reflect the new morality.

Many students still have different teachers for different subjects but many teachers now try to relate their subjects by team teaching. More interest is taken in the child. And help is offered in the public schools to those with learning disabilities and emotional problems. The atmosphere is more informal and children are encouraged to question rather than accept, to be creative, to experiment but also, once they have chosen a task, to complete it. So once again children are loved and nurtured. "Education 1776-1976" ends on an optimistic note for the children of the post-war generation who seem to benefit from the sufferings of their parents and generations before.

HEALTH

The health of children has changed markedly over the last two hundred years. In 1796 it was generally accepted that it was the fate of many infants to die. There were indeed those who thought this quite fortunate, for in this way society was rid of many of the poor, the malformed, the not-so-bright, who obviously would be a burden on both the child's own family and the society. Children's rights, as now generally accepted, were unknown in the earlier centuries.

A measure of the toll taken of children is the average life expectancy at birth in 1776, 32 years, compared to about 65 in 1976. Nearly half of the population was under 20 and some 40 to 50% died by their fifteenth birthday. Some 250 infants out of each 1000 born alive died in the first year. Such a figure is hardly found in the most underdeveloped country in the world today, while in the U.S. less than 16 out of each 1000 born alive die in the first year.

Better medical care and more knowledge of disease cannot take the credit for this remarkable change. Deaths, particularly those of infants and children, are closely related to economic and social conditions — sanitation, clean water, pasteurization of milk, nutrition, prevention of specific diseases (small pox, diphtheria, measles, whooping cough, poliomyelitis, tetanus) through specific immunizations, better knowledge on the part of many parents of how the child grows and develops, better and safer housing. Progress did not come suddenly. The rich usually benefited first, for they were free of the social and economic forces that still hold back progress for many of the middle class and the poor.

Certainly children are better off today. There are doctors, nurses, therapists of all kinds who can translate the rapidly growing scientific and technological discoveries into action even if their help is not available to all.

There were six doctors among the signers of the Declaration of Independence, though how much time they could give to medical practice is doubtful. So, too, is the value of much of the practice then available. Leeches, cupping, purgatives, calomel, mercury, opium, castor oil, alcohol and a host of worthless mixtures and procedures were all that was available. As late as 1850 it was unusual for a physician to care for an infant or young child. Even today, the average doctor knows little about well children. In early days he was called in only for acute illnesses or accidents. The care of the young was in the hands of women, who had learned what they knew and did from their mothers, neighbors, preachers. Prayer was believed to be a great healer. Midwifery was a specialty of women, and only after weaning — and that was a variable time — did the family turn to the physician. It was clearly understood that the care of illness in the family was the responsibility of the family. Indeed, through the years the question of how much the state should or could do has been and still is widely disputed. Today's arguments over national compulsory health insurance are inevitably linked to this basic question of individual versus state responsibility.

But to turn again to the eighteenth century. The word pediatrics was unknown. In 1720 only one of Boston's ten practitioners had a foreign degree. There were only nine physicians in Virginia who had attended a medical school. The first such school in this country was set up in 1765.

The usual practise was for the would-be doctor to be apprenticed to a practicing physician, pulling teeth, opening abscesses, administering emetics, learning some minor surgery and anything else his preceptor could teach him. The physician had a few books he could read. If possible he went abroad for his training. There were no hospitals or hospital beds for children.

The chief complaints in children were convulsions, rickets, worms, accidents, such as falls down wells or on the streets, and burns from fireplaces. The doctors were good at repairing harelips. As long as babies were breast fed they had little diarrhea. There followed years of arguments about formulas, as science found out more and more about infant nutrition, particularly the differences between cow's milk and breast milk. Milk, particularly in cities, was unbelievably filthy Cows were kept in dirty, dark, crowded barns, often so ill with tuberculosis they had to be trussed up to be milked by men, usually tuberculous themselves, who slept and lived in the barns. The milk, often watered or adulterated, was distributed in dirty, large cans from which the housewife dipped out what she wanted.

The early years of the nineteenth century saw mixed feeding in general use. In addition to milk a variety of mixtures of solid foods were used, some dating back to the sixteenth

century. "Pap" was flour or bread cooked in water, with or without milk. The other favorite was "panada," a term applied to various mixtures of cereals, flour, or bread with butter or milk, often cooked in broth. It was many years before the chemical analysis of human and cow's milk was understood, a calorimetric method of infant feeding developed and accepted, and the bacteriological origin of diarrhea discovered. The availability of sanitary milk and water supplies through better public health practice finally brought under control the diarrheas that had killed so many babies.

By 1825 Dr. W. P. Dewees published the first American pediatric text book. There had been many family medical books before this. By 1831 a special school for blind children was established; thus attention began to be focused on handicapped children. The end of the nineteenth century saw a professional society, the American Pediatric Society, established, but only a few physicians practiced pediatrics as a specialty. The Academy of Pediatrics and other professional groups helping children came along too. Many parents got their advice from the so-called "milk stations," an idea borrowed from Europe. These were begun as private philanthropy, but local governments finally took over the responsibility. New York City was the leader here.

The Childrens Bureau, mentioned earlier, made studies of maternal and infant deaths and helped set up special units or "Bureaus" of maternal and child health in cities and states, as well as maintain its education-for-parents role. When the Social Security Act was passed in 1935 it had expanded funds "to improve and extend services for children." The principle of public responsibility for child health had been established, but not without opposition. Many women's groups backed the Bureau, as did labor, particularly when it was a part of the Labor Department. President and Mrs. Franklin D. Roosevelt gave it strong backing. It held White House conferences on children each decade, each conference usually focusing on some different subject.

The Bureau's first trial of actually paying for medical care, the Sheppard Towner Bill of 1921, was assailed as "socialistic and bolshevistic." The American Medical Association opposed it, as it has opposed most federal health legislation of this kind. A chief argument against it was that it would make services "available to all residents of the states," a phrase that was feared as a move toward eliminating racial discrimination, as indeed it was. By 1929 the bill lapsed. World War II brought the next opportunity for the Bureau to venture into medical care. Thousands of servicemen's wives were without the means or knowledge of how to get care when pregnant. The Emergency Maternity and Infant Care Program (called EMIC) provided prenatal care, delivery, and care of the infant for the dangerous first year of life for families of men of the lowest paygrades. It took care of its patients, some 250 million mothers, wherever they lived. It was operated by state health departments, establishing a basis of payment related to the cost of care, a principle used by Blue Cross plans since then. The crippled children's programs of the Bureau, too, brought care of good quality from local doctors and institutions.

With a small, courageous staff and plenty of imagination and firmness, this Bureau provided health care for millions of children and helped raise the quality of care others got as conditions in hospitals improved to meet the Bureau's standards. It took up the needs of one group after another, the prematurely born, mentally retarded, cardiacs, cripples of all kinds. The 1965 amendments to the Social Security Act provided for comprehensive health care for children and youth; at the

same time it set up Medicaid, which led to such scandals, and Medicare, which has cared for the elderly. The latter were operated by bureaucrats who had not had the long experience of those in the Children's Bureau, like Dr. Martha Eliot, and somehow did not see or understand the value of a program of comprehensive care. They apparently thought that paying bills was enough. In a 1967 reorganization of the Department of Health, Education and Welfare, the Children's Bureau was more or less demolished, left only its statutory right to investigate and report on conditions of children in a new Office of Child Development. Later the successful Head Start Program of OEO was also put there. Earlier a separate National Institute within the National Institutes of Health gave research grants in certain aspects of children's ills, as the NIH had done for years. So the Federal govenment continues to support activities for children, and the country has

As the twentieth century dawned, there was great activity in research so that more and more could be and was done for children. Infant mortality fell some 40% from 1898 to 1911; deaths from diarrhea decreased by 43% and those from the common contagious diseases by 54%. But congenital syphilis had increased 30%. Thus the battles must continue. From 1915 on, there were steady strides: pediatric biochemistry, pediatric surgery and orthopedics, recognition and understanding of how to handle rickets and anemias, the newer knowledge of vitamins, viruses, antibiotics, the emotional and cognitive development of the child — each in its own way saved lives and improved the quality of many more.

What does the future hold? To have watched closely the rapid changes in medical students in the 1960s and 70s makes me more than skeptical of firm convictions. But some trends regarding our society and its children seem relatively clear. The mobility of American families will continue, and perhaps the trend toward the country and small towns will accelerate; the latter are not the dull places Sinclair Lewis painted. One family in every five moves each year, and one-half of all families move during any five-year period.

The evils of large cities will not be erased quickly, but perhaps some of their cultural advantages will be made more widely available. Danger from environmental hazards and mutations will create new problems.

A larger percentage of women will work outside the home and at increasingly complicated tasks. The woman's movement has already made real changes in our society — though more need to be made — and this movement is a very significant one in our time. The father will be brought into more contact with his home and child, from the delivery room to the kitchen and playground.

Changes in sex mores will not revert to the extremes of Victorian prudery, and we will probably continue to have more than one accepted pattern of family life. Some will resemble, not the nuclear family which has characterized our society for years, but more the extended family of other cultures.

Kingman Brewster, in his commencement speech this year, suggested that our history could be divided into three phases. The first was concerned with gaining political freedom; the second, with economic freedom, i.e., freedom from want. In 1976, he suggested, we perhaps have a chance to reach out to achieve a society of mutual helpfulness, "whose greatest aspiration is to give all its members a chance to make a constructive difference in each others' lives."

One prediction I am certain of: the future for children will change continuously. Their future, like their past, will be significantly influenced by the social, political, economic, and scientific changes of the time. As Daniel

Bell, the sociologist, pointed out recently, "The 'future' is a conceptual trap. It implies we have one unified system with a set of stable relationships moving in a single direction. . . . In fact, our society is composed of many aspects, each behaving in its own way and moving at its own pace." And so each child, each group of children, may well have a different future, just as each has had a different past.

The problem for physicians is thus more complicated. It behooves us to analyze these social changes as carefully as we do our individual patients. Such analyses may serve to help us and our patients to glide easily into Brewster's society of mutual helpfulness.

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Remarks on the Kate Hurd Mead Lectures

By SAMUEL X RADBILL, M.D.

In 1950 I took on the job of clerk of the Section on Medical History of the College of Physicians of Philadelphia and, with the help of William J. Leaman, Jr., and the encouragement of Dr. Marion Fay, who had just assumed the post of dean at the Woman's Medical College of Pennsylvania, I arranged three meetings at the College of Physicians to celebrate the Centennial of the Woman's Medical College. Woman's Medical College had just received a fund left by Kate Campbell Hurd Mead, an alumna of the class of 1888, the income from which was earmarked for lectures on the history of medicine. It was this fund, designated The Kate Hurd Mead, Class of 1888 Fund of the Woman's Medical College, that was used in support of the first three lectures in 1950.

In January, 1951, with the Section on Medical History laboring under its customary impecunious condition, financial support was required to bring Dr. Kenneth J. Franklin to Philadelphia to address the Section; again Dean Fay and Dr. Leaman came to the rescue with assistance from the Kate Hurd Mead, Class of 1888 Fund. This set a pattern for the series of annual lectures which have been presented ever since under the joint auspices of the Woman's Medical College and the Section on Medical History, and which have come to be known as the Kate Hurd Mead Class of 1888 Lectures in the History of Medicine.

Following the twentieth lecture in 1969, Dr. Walton B. McDaniel 2d, curator of the Library Historical Collections of the College of Physicians of Philadelphia, published a list of the eminent lecturers and their topics in the College *Transactions*. The lectures have also been bound, with a prefatory note and a brief sketch of the life of Dr. Mead by Ms. Ida Draeger, at the Library of the Woman's Medical College.

In the early days Dr. and Mrs. Leaman hosted a delightful cocktail party before each lecture, and McDaniel and Ms. Ella Wade, curator of the Mütter Museum, would set out attractive exhibits derived from appropriate historical resources at the College of Physicians. A subscription dinner with each lecture also became traditional, thus affording the Kate Hurd Mead lecturer an opportunity to meet Fellows of the College of Physicians, members of the Woman's Medical College faculty and staff, and other guests.

One of the highlights of the early meetings was the introduction of the sprightly Emeritus Professor of Surgery, Dr. Catherine MacFarlane, who would regale us with charming personal recollections of Dr. Mead. Dr. Marion Fay, now President Emeritus of the Medical College of Pennsylvania, would also relate various anecdotes about the lectureship's namesake.

Katherine Campbell Hurd was born in Canada in 1867, came to Newburyport, Massachusetts, with her family when she was three years old, and at the age of twenty-one graduated from the Woman's Medical College of Pennsylvania in the class of 1888. She served as an intern at the New England Hospital for Women and Children in Boston, which had just the year before celebrated its

*Delivered before the Kate Hurd Mead Lecture XXV, The College of Physicians of Philadelphia, May 19, 1976.

twenty-fifth anniversary by reorganizing its staff. Here the new physician must have come under the influence of the hospital's founder, Marie Zakrzewska, who actively campaigned all her life for equal rights for medical women. This goal was finally achieved when Johns Hopkins University opened its doors in 1889 and became the first to offer coeducational status to medical students.

After the internship Dr. Hurd went to Johns Hopkins for further training and then studied abroad at various European universities.

From 1890 to 1893 she served as medical director at the Bryn Mawr School in Baltimore. On June 21, 1893, she married William Edward Mead and they moved to Middletown, Connecticut, where he was a professor teaching Anglo-Saxon, Gothic, and the history of the English at Wesleyan University. They occupied a 17-room mansion located on "doctors' row" in Middletown, and there Dr. Mead opened her office for general practice. From 1907 to 1925 she was consulting gynecologist to the Middlesex Hospital in Middletown.

There was ample space for books in their large roomy house and Dr. Mead collected a choice library of books especially related to women in medicine. She was a member of many medical organizations, including the American Medical Association, president of the Public Health Association of Haddam, Connecticut, president of the Middlesex County Medical Society, corresponding secretary of the Medical Women's International Association, and, in 1923-24, president of the American Medical Women's Association. She served the latter organization for many years as historian. In spite of an active practice and organizational work, she spent a tremendous amount of time and effort in medical historical research both in this country and abroad. She is said to have taught at Wesleyan where her husband was professor. Since the school term lasted only ten months a year, they had two months each year to haunt the libraries and bookshops of Europe and America.

In 1925 she wrote exultingly to her friend Dr. Martha Tracy, saying her husband was retiring in a burst of glory after 34 years of teaching and she wished to sell her home and practice. She told Dr. Tracy she was a "poor charger" and only averaged $7000 during the nine or ten months she practiced each year, but believed any doctor who replaced her could do much better financially. Writing to Dean Tracy in the spring of 1929, she said she and her husband were "going home in September, buy a house and settle down for awhile" after a wonderful winter in North Africa, Sardinia, Sicily and Dresden. Many of us recall a delightful story told and retold year after year by Dr. MacFarlane about meeting Kate Mead at Winchester on the way to Stonehenge.

Dr. Mead and her husband were especially fond of working at the British Museum, and it was during the years 1925 to 1929, when they lived in London after his retirement, that much of the preliminary work was done for her outstanding book, *The History of Women in Medicine.* Most of her writing concerned women in medicine. When she retired as president of the Medical Women's Society of Connecticut in 1925 her address was a short history of the medical women of that state, which was published in the *Proceedings of the Connecticut State Medical Society.* In 1930 she published a fine paper on Trotula for *Isis,* and in 1933 Victor Robinson's Froben Press published her book *Medical Women of America.* But her most valuable publication was the *History of Women in Medicine.* Unable to find a publisher, she finally published it privately in 1938 under her own imprimatur of The Haddam Press. It is a worthy monument to a distinguished historian.

She was working on a second volume to complete the story and in 1930 we find her asking the opinion of Dean Tracy about some medical women to be included and for a translator for thirteen long pages on the history of pioneer women in Russia. "I can do all the ordinary European languages from Scandinavian to the toe of Italy, but Russian stumps me," she wrote. Apparently, Dean Tracy could not help her with the Russian, because I do not find the thirteen pages on the pioneer medical women of Russia in her book.

Even before the publication of her *opus major* she was asking for advice of Dr. Tracy about the projected second volume. In a letter dated January 4, 1934, she wanted to know about having specialists do chapters on women of the specialties for this second volume. At the same time she was bewailing the fact that all her medical historical efforts had to be a work of charity.

Dr. Kate Campbell Hurd Mead died on January 1, 1941, at the age of 73. There was a fire on her estate and when, in the excitement, one of her employees died of a heart attack she rushed to his side, only to suffer a heart attack herself. Her husband survived her, and when he died in 1949 her library on women in medicine went to the Medical College of Pennsylvania, in accordance with her will, and a sum of money went along with it to her alma mater to establish the Kate Hurd Mead, Class of 1888 Fund. I am sure Kate Campbell Hurd Mead would be pleased to know that her wishes regarding the history of women in medicine have been so well accounted for in the Kate Hurd Mead Lectures.

William Williams Keen, M.D. (1837-1932), Surgeon and Author*

By DONALD C. GEIST, M.D.†

William Williams Keen was born in Philadelphia on January 19, 1837. Upon completion of his preliminary education at Saunders' Academy and the Central High School of Philadelphia, he entered Brown University, graduating as his class valedictorian in 1859. He continued for another year in the study of chemistry and physics at Brown University and then entered Jefferson Medical College, receiving his M.D. degree in 1862. Postgraduate education followed in Europe under Pouchet in Paris, Virchow in Berlin, and Billroth and Cohnheim in Vienna. The year 1866 found him in private practice in Philadelphia, beginning his long and illustrious teaching career (Figure 1).

In 1884 Dr. Keen became professor of surgery at the Woman's Medical College of Pennsylvania. Upon the death of the younger Gross in 1889, he was appointed professor of surgery at the Jefferson Medical College, retaining the professorship until his retirement in 1907. From 1866 until 1875, one of its most successful periods, he had conducted the Philadelphia School of Anatomy.

His life, encompassing sixty years of surgery, was filled with honors, positions, and awards. Ten universities presented him with honorary degrees. He became an Honorary Fellow of the Royal Colleges of Surgeons of England, Ireland and Edinburgh, an honorary member of the Italian and German Surgical Societies and the Clinical Society of London. Dr. Keen was president of the American Surgical Association, the American Philosophical Society, the American Medical Association and the College of Physicians of Philadelphia. He was honored with the Order of the Crown of Belgium and Officier d'Honneur of France, and received the Colver-Rosenberger and Bigelow medals. He wrote a large number of scientific and non-scientific papers and books. He remained compassionate, kind, charitable and curious until his long and fascinating life ended on June 7, 1932.

Many words and much space would be needed to adequately relate the work of Dr. Keen. Only a small portion of it can be presented in this account. A skillful, courageous, thorough surgeon and an excellent teacher, he was an incessant student of medicine and its literature.

CONTRIBUTIONS TO SURGERY

Dr. Keen's contributions to neurosurgery were most important and began during the Civil War in association with S. Weir Mitchell and George R. Morehouse in the treatment of nerve injuries. These experiences were reported in *Gunshot Wounds and Other Injuries of Nerves*[1] and in later articles on malingering[2] and reflex paralysis.[3]

At this time, surgery of the nervous system was in its infancy. Little was known about

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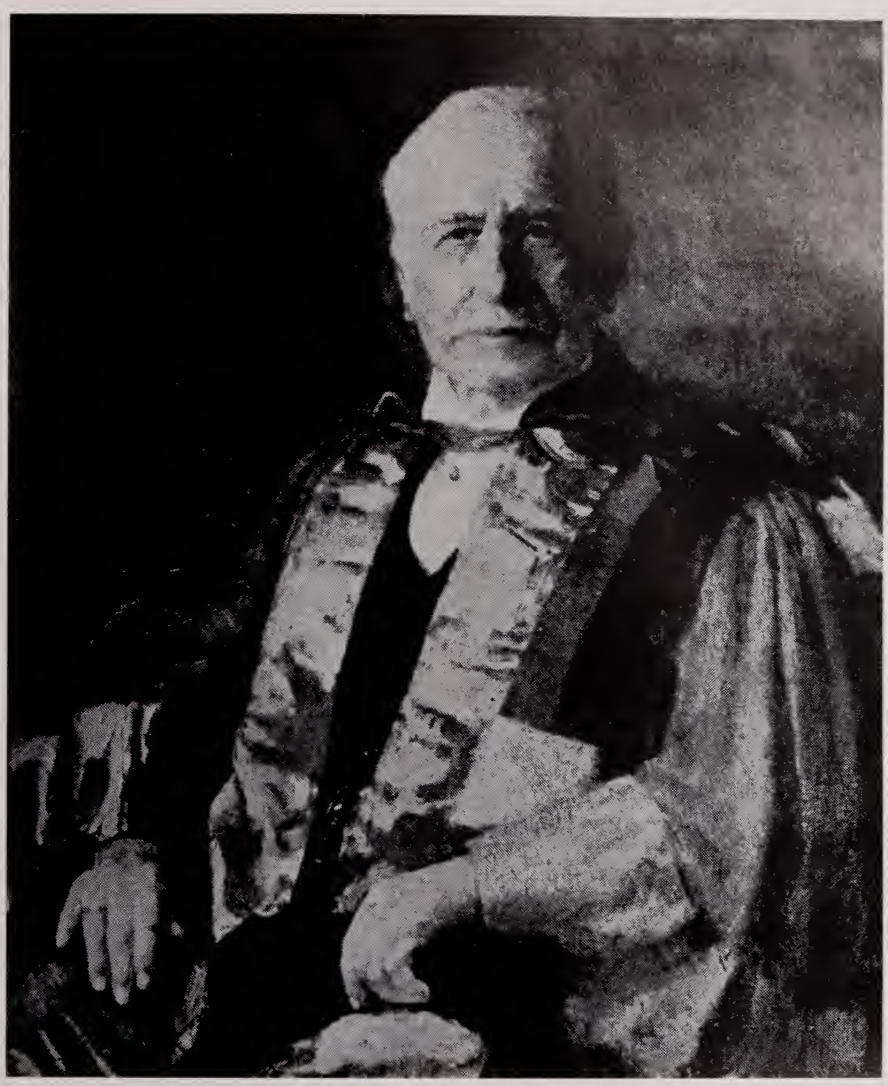

Fig. 1. Portrait of William Williams Keen, M.D., by Robert Vonnoh. (*The College of Physicians of Philadelphia.*)

brain function, and the localization of brain tumors was accomplished by the study of the patient's symptoms and signs. Operative technique was inadequate and the cause and treatment of postoperative infection were poorly understood. About 1827 Dudley,[4] in America, had treated traumatic epilepsy by trephining the skull. Hughlings Jackson,[5] in 1890, published his studies on the differentiation of focal and idiopathic epilepsy. The first evidence of the electrical excitability of the brain came from Bartholow[6] in 1874. Fritsch and Hitzig,[7] as well as Ferrier,[8] published their investigations of brain function in the 1870s, and Horsley[9] a few years later. Krause and Hartley[10] independently described the extradural removal of the Gasserian ganglion for the treatment of trigeminal neuralgia in 1892. These were a few important contributions of the period to neurosurgery.

In 1887, Dr. Keen removed his first brain tumor.[11] The patient lived for more than thirty years, and his clinical record was completed with the recording of his death by Dr. Keen (Figures 2 & 3). Weir and Seguin[12] in 1888 recorded eight instances of the removal of brain tumors, including Keen's patient and several more with tumors of the cerebellum. Cushing[13] wrote that before January 1901 the diagnosis of brain tumors had been made at the Johns Hopkins Hospital only 32 times. Thirteen of these patients were transferred to the surgical wards but only two were operated upon, both with disastrous results. Dr. Keen's success with his patient was, therefore, an early and important achievement in neurosurgery in America.

His optimism concerning surgery of the brain was shown by his statement, "The future of surgery of the brain tumors is encouraging," and later, "Cerebral surgery will show, within the next few years, triumphs as exact, extraordinary and beneficent as has abdominal surgery." Constantly stressing the necessity for improved methods of diagnosis and localization of brain tumors, he used cyrtometers and other apparatus to aid in their localization. Keen also emphasized the considerable value of consultation with the ophthalmologist and neurologist in treating neurosurgical disease.

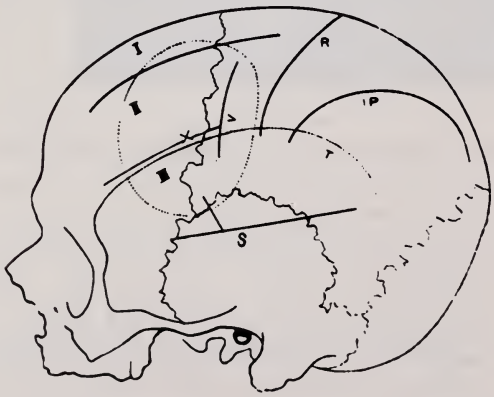

Fig. 2. Sketch showing the localization (circle) of the first brain tumor removed by Dr. Keen. *S*, Fissure of Sylvius. *R*, Fissure of Rolando. *IP*, Intraparietal sulcus. *I*, Temporal ridge.

His efforts to improve operative surgery of the brain include the use of the osteoplastic flap rather than simple incisions, and electrical stimulation of the cerebral cortex to aid in localization; he devised his own electrode for this purpose (Figure 4). He used bone chips to fill the skull defect and experimented with transplantation of the pericranium to hasten healing of the dural wound. Dr. Keen investigated control of operative hemorrhage, especially urging the use of the ligature. He advocated and performed cerebral surgery for focal or Jacksonian epilepsy, urged operative treatment of brain abscesses and prompt surgical intervention in middle meningeal hemorrhage.

Fig. 3. Sketch showing the depth of the first brain tumor removed by Dr. Keen.

Trigeminal neuralgia, named "tic douloureux" by Nicholas Andre and first described by John Fothergill in 1776, was another of Dr. Keen's important interests. Its early treatment by resection of peripheral nerves and nerve stretching produced only

temporary relief. Dissatisfaction with such unsuccessful results led Dr. Keen to treat tic by the removal of the Gasserian ganglion.[14] Eleven patients were operated upon by him, using the Hartley-Krause procedure and achieving complete relief of symptoms in all of the patients (Figure 5). The high mortality of the operation and the unfortunate complication of corneal ulceration concerned him greatly and he sutured the eyelids together to prevent this malady. He concluded that the entire ganglion should be removed in treating trigeminal neuralgia, but believed that the operation should be done only after all other methods of treatment failed. Further progress in the management of this disease did not appear until the period of modern neurosurgery and the work of Cushing, Frazier, and others.

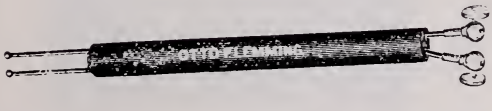

Fig. 4. Electrode devised by Dr. Keen for cortical stimulation.

In 1891, at the suggestion of S. Weir Mitchell, Dr. Keen studied the neuroanatomy involved in spasmodic torticollis for the purpose of devising an operation for its correction. His technique consisted of division of the posterior divisions of the first, second and third cervical nerves supplying the posterior rotator muscles of the head.[15] A similar procedure was independently devised by Gardiner of Melbourne, Australia, but not reported until two years after Keen's publication. Horsley[16] performed the operation on five patients and considered it satisfactory although tedious to do. Many years later, in 1925, J. M. T. Finney[17] wrote, "This [Keen's operation] was the first really carefully studied and scientific attempt to treat torticollis."

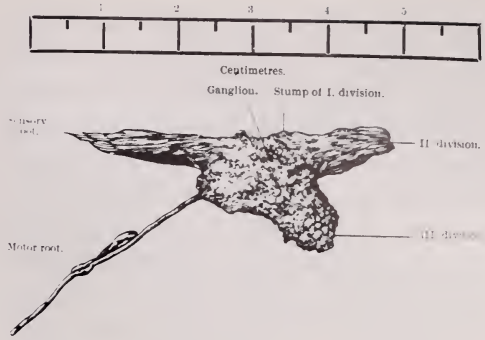

Fig. 5. Gasserian ganglion removed by Dr. Keen in treating trigeminal neuralgia.

Among Dr. Keen's other neurosurgical contributions were tapping of the cerebral ventricles, the first operation in America to correct microcephaly, nerve suture, treatment of brain abscesses, and the surgical treatment of craniocerebral trauma.

Dr. Keen was also a major contributor to general surgery, including the surgical treatment of hepatic tumors. Carl Beck reported that Linz removed a solid tumor of the liver in 1886; although the patient died, Beck[18] remarked, "the feasibility of the procedure was proven." In 1892, Dr. Keen[19] did a successful removal of a liver adenoma, later proved to be of coccidial origin. His considerable operative ingenuity is well shown in the removal of a second hepatic neoplasm which he marsupialized in the incision, placing several constricting rubber bands about its neck to hasten completion of its removal. In 1899 he successfully performed a left hepatectomy to remove a tumor of the liver (Figure 6). In writing about this patient,[20] he reviewed 76 reported instances of the removal of hepatic tumors, with the surprisingly low mortality of 14.9 percent. He remarked about this patient, "it seemed possible to remove the entire left lobe of the liver and with it, the whole of the tumor and I proceeded at once to its extirpation." His important conclusion was that "most tumors

and large portions of the liver and liver tissue will regenerate and make good the loss." Keen's last paper on hepatic tumors included a thorough, comprehensive discussion and review of the treatment of neoplasms. One wonders why almost 70 years elapsed before his statement was better appreciated and further study of the removal of growths of the liver instituted.

Fig. 6. Specimen with tumor from left hepatectomy performed by Dr. Keen.

Among other noteworthy experiences in general surgery was his performance of cardiac massage and resuscitation. He ligated the abdominal aorta for aneurysm and, dissatisfied with the ligature, devised a clamp for this purpose, submitting it to animal experimentation to evaluate its effectiveness (Figure 7). Dr. Keen was one of the first four surgeons to perform cholecystotomy, and advocated its use in treating gallbladder disease. His published papers on injuries of the thoracic duct, tumors of the carotid body, and cervical rib were excellent, indeed modern in their connotation.

Fig. 7. Clamp devised by Dr. Keen for compression of the aorta in treating aneurysm.

MISCELLANEOUS LITERARY WORKS

Dr. Keen was a prolific author. A selective bibliography prepared by the writer includes almost 400 items. Over half of his papers were concerned with scientific medicine and surgery, and the remainder with a variety of literary works, generally related to medicine.

His essays and addresses covered a variety of subjects, among them history. A history of practical anatomy, published in 1870, was excellent and well received. Some of his reminiscences, such as those of his student days at Jefferson,[21] contain considerable historical information. Others were a history of the Philadelphia School of Anatomy, one of the Sunday School of the First Baptist Church of Philadelphia, and one of the best histories of the First Baptist Church itself. "Sixty Years of Surgery,"[22] published in 1922, contains much medical history.

Other favorite subjects of Keen's writings were medical education, the qualities esssential for a doctor, and the advantages of an academic training in a medical career. A number of them emphasized the need for improvement in medical schools, the value to the physician of a good moral and ethical character, and the virtue of spiritual matters in the doctor's life.

Most interesting were his contributions for public and lay consumption, which appeared in newspapers and magazines such as the *Public Ledger, Philadelphia Record, Harper's Monthly Magazine, Woman's Home Companion,* and *The Saturday Evening Post.* In these, he discussed progress in surgery, the control and prevention of infections, the value of vivisection (he

preferred to call it animal experimentation), the treatment and prevention of cancer, and, notably, his story of the operations upon President Cleveland (Figure 8).[23] These papers were clear and concise and the style and wording were readily understandable by the laity.

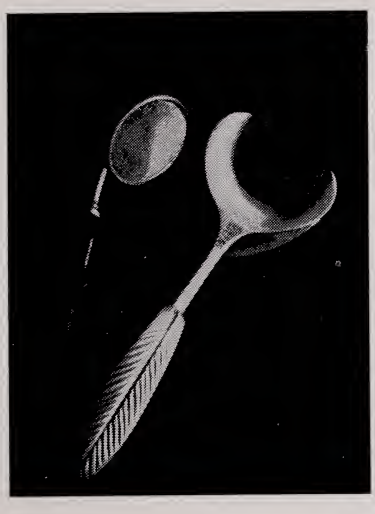

Fig. 8. Cheek retractor and laryngeal mirror used in the operations on President Grover Cleveland and given to the Mutter Museum by Dr. Keen. (*The College of Physicians of Philadelphia.)*

A number of his writings were on spiritual and religious subjects and his life-long devotion to the First Baptist Church of Philadelphia. Three publications appeared in the 1890s on "The Bloody Sweat of Our Lord."[24,25,26] He presented and reviewed the scientific and medical evidence for this phenomenon and included the studies, investigations and findings of others. His own opinion was: "With such intense emotion beyond the limit of human endurance and with such physical suffering as culminated on the Cross, it cannot be a wonder either that his sweat became bloody, or that his heart, even at so young an age as thirty-three, should rupture."

Between 1903 and 1927, Dr. Keen published several papers, among them "The Cheerfulness of Death,"[27] "Science and the Scriptures,"[28] and "God's Guidance in Human Life,"[29] and a book, *Everlasting Life,*[30] in which he presented his thoughts and views concerning the spiritual aspects of life. These are simple, humble and sincere in their content and offer a glimpse of his and his family's spiritual beliefs. J. A. MacCallum, in reviewing *Everlasting Life,* wrote: "He [Keen] sees life steadily and sees it whole and therefore recognizes that to be a Christian is to have the spirit of Christ rather than to subscribe to a series of doctrines which are impossible of verification."

Dr. Keen was a staunch advocate and supporter of animal experimentation and surgical research. As a result, he became involved in an active and long-lasting controversy with the antivivisectionists. Over the years he published thirteen papers, one book and three of the Defense of Research pamphlets, prepared at the request of the American Medical Association as part of its efforts to combat the activities of American antivivisectionists. In these, he discussed the accomplishments and achievements of animal experimentation which influenced medical progress. He cited the advances in cerebral surgery, the control of smallpox, typhoid fever and other infections, and the numerous improvements in operative procedures made possible by such research. In others, he refuted the innuendo, emotional responses and inaccurate statements of some of the antivivisectionists. Factual and objective, he refrained from anger, sarcasm and emotion in replying to his opponents. Dr. Keen kept a constant surveillance of the publications, speeches and letters of the antivivisectionists in order to contest them promptly. These publications were well received, played an important part in defending medical research, and were hailed by many people in various

endeavors of life.

Such are some of the accomplishments and exciting events in the life of William Williams Keen. His surgical contributions justify consideration of him as one of America's pioneers in neurosurgery. Combined with his activities in general surgery, they demonstrate his surgical skill, competency, teaching abilities and contributions to medicine in general. A review of his literary publications displays his ability as an author and writer. In addition, they give some insight into the man himself, his way of life, charity, humor, great curiosity, and varied interests. All of this simply relates what has long since been known: William Williams Keen was one of America's great surgeons who well earned national and international fame for his achievements.

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DISCUSSION

Dr. Parish: Dr. G. E. Erikson, professor of medical science and chairman of the Section of Morphology in the Division of Biological and Medical Sciences at Brown University, will discuss Dr. Geist's paper.

Dr. Erikson: Dr. Parish, Dr. Lansing, and members and guests of the College. I must say, Dr. Geist, it is a miracle of concision to have encapsuled Dr. Keen, that extraordinary man, and his astounding life's work in twenty minutes! I congratulate you. The heart of every Philadelphian and member of this College should be swelling with pride at the accomplishments of Dr. Keen.

But may I remind you, it isn't just Philadelphians and members of this College who are proud of him. I bring you greetings from Brown University, where, for an even longer period than you, we have claimed Dr. Keen as a hero. He often boasted that two remarkable events occurred in 1859 — first, Darwin published his *Origin of Species,* and second, his class graduated from Brown. Now, you don't have to be very perceptive to see something significant in his linking of those two phenomena. It shows that Dr. Keen was a very remarkable Baptist.

It is interesting to note some striking parallels between Dr. Keen's relation to this College and to some other institutions, most particularly, I think, to Brown. You remember him as an extraordinarily loyal and able member and officer of this College, and a great contributor — both intellectually and financially — to all sorts of its projects, especially the library.

At Brown we all remember him in very similar terms — in fact, he is counted as one of the most loyal alumni we have ever had. When our *Brown Alumni Monthly* first appeared in 1900, his name led the masthead, and he continued on that editorial board well into this century. (Incidentally, he would have been very proud to see how it has prospered. For the third time in recent years, it has been given the Sibley Award as the best alumni publication in the nation.) We have a Keen Fellowship and a Keen Library Fund named for his wife. He faithfully returned for every commencement he possibly could, including that of his seventieth class reunion in 1929, when he was 92. Perhaps his most extraordinary contribution was his membership on the Corporation of Brown University for fifty-nine years — which must be close to a world's record at any university. So we have a very lively memory of Dr. Keen up there in Providence and are proud that he is so fondly remembered here in Philadelphia, as he is in a number of other places.

But I am sorry to have to remind you that his record is fading and needs to be freshened. I, for one, am delighted that Dr. Geist is busy about it, through his paper here this afternoon and in the long annotated bibliography he has prepared. There has been nothing written recently of this scope and it is badly needed. Like many another near-centenarian, he out-lived those young contemporaries who could best have written his biography. Present-day medical students have hardly heard of him. Their mentors, their professors have heard of him, but they are too often a bit vague as to who he was. In my oral history project I have been trying to

find and interview people who remember him. The misconceptions I uncover are astounding. He is placed in the wrong city, in the wrong hospitals and universities, even in the wrong centuries, and is seldom credited accurately for any of his broad range of accomplishments.

I cannot think of a better person to produce a modern review of Dr. Keen's life and work than Dr. Geist. He brings to it the needed background on Philadelphia, on medicine in general, and on surgery in particular. I hope all of you realize that the paper we have just heard is not a mere revision and condensation of some of the older tributes to him. You will have detected abundant signs that Dr. Geist's researches have been far deeper and broader than strictly necessary for this brief review. As some of you know, he has for some years been working on a selective, annotated bibliography of Dr. Keen's published works. Using the standard bibliographic tools, he has worked through the more than sixty-year span of Dr. Keen's publications to ferret out about four hundred items, many of which he has, by his annotations, put into clinical and historical perspective.

I appreciate the labor involved in all this because we have been busy for some years at Brown on a similar project, in fact, an even more ambitious one: the compilation of a complete bibliography and library of everything he ever wrote — his scientific and lay papers, addresses, editorials, and miscellaneous contributions to the popular press, as well as his manuscripts, letters and general memorabilia. Our bibliography of his published writings will eventually be perhaps twice as long as Dr. Geist's selected one; it already has over 650 items.

After we had worked so long independently, Dr. Geist and I shared our bibliographies and were both interested to discover what we had missed — he having been largely dependent on published bibliographical indices while we drew on many years of a broader bibliographic gathering as well as on Dr. Keen's personal file of reprints, his own compiled bibliography, and the manuscript emendations by one of his daughters (who had contemplated preparing her father's biography). I expected, of course, that the more than two hundred additional references on our list would yield some which were worthy of Dr. Geist's selection and annotation, and he chose about a dozen. I was surprised and pleased when the sharing turned out to be mutual: we found on his list more than a score of publications we had not yet encountered — all of which indicates the primitive state of the study of even the published Keeniana.

As for the manuscript resources by and about Dr. Keen and his world, the quantity and range is simply overwhelming. The principal collections, of course, are here at the College, at the American Philosophical Society, and at Brown. We have an abundant record of his nearly eighty years of relations with his *alma mater*. He was a very steady correspondent. For long periods he wrote at least weekly, sometimes daily, to the president, librarian, members of the faculty, or other alumni. Through the generous cooperation of various Keen descendants, we have supplemented this Brown-related material with collections reflecting the full range of his personal, religious, professional, and public life. We have more than 13,000 letters by, to and about Dr. Keen, a nearly complete collection of his published writings, a large collection of photographs, diplomas, medals, and instruments, a cast of his hand, and much else both significant and trivial. Our tape-recorded interviews with descendants and younger contemporaries make a unique contribution that helps to fill out the picture. The collating, analyzing and integrating of this valuable collection is a

large and long-range project. It will form an excellent basis for a full-scale biography, the preparation of which will be a herculean task.

This is such a rich and heady realm, of such infinite complexity, that a scholar of ordinary fortitude and determination, once immersed, is in danger of never emerging from it — certainly not with a neat bundle of manuscript setting it all in order. Fortunately for us, Dr. Geist has proved to be a veritable Ulysses, in fact besting him in expertly navigating clear of Scylla, Charybdis, the Sirens, and the Lotus Eaters. He has had the good sense to set himself quite attainable goals and is about to deliver. Soon we shall have a very useful three-part guide: first, a succinct, modern review of Dr. Keen's work as surgeon and author; second, an extensive bibliography selected to illustrate the rich variety and originality of his medical and lay publications; and the very helpful third element, a series of notes to guide the modern reader through some of the perplexing maze of nineteenth-century names of people, instruments and procedures. His annotations will give some guidance on complex questions of priority and also suggest that there may still be value in some long-forgotten procedures.

For all this we owe Dr. Geist a hearty vote of thanks.

Now, what can I say to temper these appreciative remarks — to demonstrate both that I consider nothing too good for Dr. Keen and that I qualify to serve in this role as invited commentator? Comments on such occasions are, I believe, usually given under the headings of additions and corrections. As for corrections, Dr. Geist and I have had plenty of opportunity to thrash out, before this, questions of priority or relative merit of certain of Dr. Keen's contributions. We haven't held anything back for a floor fight.

As for additions — that's another matter. I could go on for a very long time with further details to amplify and illuminate various facets of the life and work of Dr. Keen, and so could Dr. Geist if he were given more time. If I were asked which element would be most rewarding to see developed in extension of the picture Dr. Geist has drawn for us, I'd choose those elements that would tell us more about Dr. Keen the man — the course of his personal life and the personality and character behind the work. The published record provides very little to help us see him in his daily rounds, with his family, among his friends, in his church, and, least of all, in his inner life. We do get some vivid and telling descriptions, it is true, in the remarkable series of tributes to him at the public celebrations of his seventy-fifth, eighty-fourth, and ninetieth birthdays. But it is in the manuscript sources, his letters and his reminiscences written for his descendants, that we find the detail, color, and intimacy we want.

It may seem to some of you an irrelevance to bring in this personal aspect of Dr. Keen's life in this context, even as an "addition," since the goal of Dr. Geist's paper was to give a review of the surgeon and author through a review of his published work. But, of course, the man is relevant to the work and I think you will find it interesting to consider a particularly dramatic instance of this relevance. It is an exceedingly personal one, for which we have the best documentation: Dr. Keen's explicit statements in letters and personal records, deductions from case books (including those of Dr. Osler), and the corroborations in taped interviews with members of the family.

The three-year span beginning in 1886 was a key period in Dr. Keen's life. This is not conspicuous in the review of dates and accomplishments Dr. Geist has just given us. But if we project this chronology against the scale of his ninety-five years and underscore the signal events, the change of pace and the drama are striking. To appreciate its full

impact and give a lively sense of the man and his world at that time, one would need to weave a rich fabric of people and events — far too many to even list here. All I can do is suggest in an outline the transformation of the public image of a seemingly ordinary man into a very extraordinary one.

In early July, 1886, on the eve of this dramatic period, we must imagine Dr. Keen, a much respected Philadelphia surgeon in his fiftieth year, travelling to Cape Cod, concerned by the news of his wife's continuing abdominal pain as she summered at Osterville with their four daughters. Dr. Osler had been treating her through that spring, we know from his Day Books, and on Dr. Keen's telegraphed summons, he hurried from Philadelphia to Osterville. There, through two long days and nights, they ministered to the dying woman and shared a grief that Dr. Keen was to relive in solitary retreat on each anniversary of July 12 for the rest of his life.

This "one great sadness" of his life nearly destroyed him. From his own accounts and from his letters to Sir William and Lady Osler, we know he fell into such depths of grief that only the need to carry on for his four young daughters sustained him. He was rescued from this long, seemingly hopeless despair by the remedy that he and Osler often prescribed: work. His friend Mr. Henry Lea, in an act of friendship mingled with good business sense, urged him to undertake a revision of the American edition of Gray's *Anatomy,* of which Lea was the publisher. This was Keen's salvation and, to quote his own reminiscences at the age of ninety, it initiated "a remarkable series of apparently unrelated events — in reality — closely linked together in their combined influence of my whole after-life." After a year of intensive work on revision and expansion, Dr. Keen produced the best edition to that date (1887) of this classic text. The section on the nervous system most intrigued him and received the most drastic revision and expansion. He himself regarded this re-study of the nervous system as having been absolutely essential for providing the knowledge, skill, and confidence he needed to undertake his two boldest innovations in surgery: the successful extirpation of three large meningiomas (1888) and the tapping and irrigation of the cerebral ventricles (1889). His dramatic presentation of the three cases of brain surgery, with not only the specimens but the living patients, at the First International Congress of Physicians and Surgeons in Washington in 1888, gave him an immediate international reputation. At last came that much-coveted professorship at Jefferson (1889) and then, in quick succession, the remarkable series of further accomplishments, appointments and honors that Dr. Geist has just reviewed for us.

This bare outline cannot more than suggest the close interweaving of personal and professional strands in Dr. Keen's life at this critical period. Perhaps it is enough, though, to illustrate that in searching for the man behind the academic and clinical events, manuscript sources and clues from oral history may help enliven and illuminate the biographical and bibliographical record.

Dr. Geist and I keep coming back to Dr. Keen's books and papers for their very genuine anatomical and surgical worth. But a great part of the lure is the man himself. We hope you feel it, too.

May I close by reading one of the finest tributes to Dr. Keen? It's from someone who knew him well — the president of the Royal College of Surgeons during the last years of Keen's life, Lord Moynihan:

> Keen was one of the very first surgeons in the world to realise the truth and high importance of Lister's teaching. . . . Keen helped to inaugurate the new era. His work on the brain, nervous system, abdominal organs, upon the ravages of typhoid fever in their surgical relations, indeed upon all branches of surgery — and he practised all with immense success — was perhaps the most considerable

and most inspiring of that of any surgeon in the States. The simplicity and flawless integrity of his life, his exquisite sense of humour, his power of provoking it, and his capacity for swift and often unanswerable reply, all helped to create a personality that no man who knew him will ever be able to forget. . . . If wisdom is a right conception of the ends of life, my very dear old friend Dr. Keen was indeed among the wisest of men.

Roots and Ramifications of Medicinal Herbs in Eighteenth-Century North America

By CATHERINE WISSWAESSER*

Herbs and spices today bring to mind the exotic or the obscure: gourmet eating, specialty shops and faraway places, health food or gardening enthusiasts, and in some instances, folk medicine and supersitition. The medicinal virtues of many plants are extolled in such common names as "feverfew" (*Pyrethrum parthenium,* Aster family), two varieties of "heal all" (*Scrophularia nodosa,* Figwort family, and *Collinsonia canadensis,* Mint Family), "balm" *(Mellisa officinalis,* Mint family), and "life-everlasting" (*Graphalium polycephalum.)*[1] In fact, any plant with the species name "officinalis" — *Hyssopus officinalis* (hyssop), *Valeriana officinalis* (garden heliotrope), *Symphiticum officinalis* (comfrey), to name a very few — was at one time considered medicinal.

As unfamiliar as these remedies may sound, and though they are rarely seen today on a druggist's shelf or prescribed by a medical doctor, it was not so long ago that botanicals were the mainstay of the medical and pharmaceutical professions. Early in the twentieth century hundreds of plants were considered "official," that is, listed in the 2United States Pharmacopoeia (USP) or the *National Formulary (*NF), with instructions for procurement and preparation detailed in a third publication, the *United States Dispensatory*. Drug companies such as Eli Lilly sold much plant material and botanical extracts.

Because of the continuing sophistication of organic chemistry, medicinal plants are constantly being superseded by their alkaloid or glycoside derivatives or by synthetic drugs. With each revision of the USP and the NF, therefore, botanicals are dropped from the listings. The new medicines have the advantage of being more specific for symptoms or disease. Side effects such as those caused by harmful alkaloids or dross present in medicinal plants can thereby be avoided. Because modern drugs are standardized and pure, they are increasingly predictable and reliable. The therapeutic value of plants, however, is not totally obscured as a part of the medical heritage of the United States and the world. Vegetable alkaloids and glycosides are still very much a part of the materia medica, and investigations into the makeup of plants continue to provide sources for valuable drugs and clues as to which synthetic compounds might be effective. Indeed, there are numerous researchers today who seek out the medicinal secrets of plants throughout the world.[2]

Approaching eighteenth-century medicinal herbs from the far side in time, we know that the use of plants for medicinal purposes predated written history. The quest for food went hand in hand with the search for and discovery of plants which altered the functioning of the human body. These in turn helped to correct irregularities when they occurred. It is interesting to note that the materia medica were at one time divided into the subcategories "alimentaria" (having to do with food) and "medica" (dealing with medicines more strictly speaking).[3]

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Opium, which needs no introduction, was prepared from the unripe poppy capsule (*Papaver somniferum)* for medicinal use as a pain killer by the Aegeans of the Bronze Age and other peoples of the ancient world. The origin of its use is lost in time.[4] *Rauwolfia serpentina,* the source of the alkaloid reserpine, has been used for centuries in Hindu medicine.[5] The use of foxglove (*Digitalis purpurea),* a heart stimulant, is documented in the eleventh-century herbals of the Welsh Physicians of Myddrai, correctly prescribed to relieve dropsy.[6] The global importance of medicinal herbs stretches from an unrecorded past, encountering competition only with the progress of organic chemistry in the nineteenth century. In 1492 Columbus was looking for a shorter route to the Indies, the source of spices, the most important ones presumably being of medicinal value. When America was opened up by explorers and conquerors during the sixteenth and seventeenth centuries, interest in new medicinal plants was intense.[7] By the end of the latter century, many native American plants had found a permanent position in European medicine.[8]

Peruvian or Jesuit's bark (*Cinchona* genus, several species), containing quinine and other alkaloids, was probably the most important New World contribution. It was first popularized in Europe as a cure for intermittent fevers (chiefly malaria) simultaneously by Jesuits from Peru and the Countess of Chinchona (for whom the plant was named, using an incorrect spelling, by Linnaeus). Its use was extended to other fevers, in some of which it acted as an antipyretic, reducing the temperature to normal, but effecting no cure.[9] It also served as a "tonic." It is employed as such today in the popular beverage, tonic or quinine water. By the end of the seventeenth century Peruvian bark was used throughout Europe. The active ingredient against malaria, quinine, however, makes up only two to five percent of the crude bark. Great quantities were consumed to cure the disease in former times.

Ipecacuanha (*Cephaelis acuminata)* from Brazil and jalap (*Exogonium purga)* from Mexico were important contributions to European medicine from Indians native to the respective areas. At the time, these drugs were employed as cathartics and laxatives. Ipecac and its alkaloid, emetine, are still efficacious drugs for amebic dysentery, an effect the indigenous Indians were aware of several centuries ago.[10]

The North American contributions, sassafras (*Laurus sassafras)* and ginseng (*Panax quinquefolium),* gained immediate popularity in England as general panaceas, and a substantial trade in these items resulted. Sarsaparilla, senna, snakeroot, pink root, Jamestown weed, sumach, tumeric, ipecac, and jalap (probably the North American varieties of these latter two, unrelated to the South American plants) were all exported to some extent from North American colonies and became important herbal remedies.[11]

The wide range of climate in colonial America invited naturalization of important foreign medicinal plants. Attempts along these lines were made in Georgia between 1732 and 1740, for example, without permanent results.[11] In 1770 John Ellis, of the Royal Society of London, made a list of exotic plants from such places as South America, the East Indies, Egypt, and China, which he proposed as "worthy of being encouraged in our American Colonies. . ." The American Philosophical Society in Philadelphia republished this "catalogue" in 1771 in its *Transactions* (v. 1 (o.s.), pp. 255-266), but again nothing on a grand scale came of it. Plants from England and continental Europe were brought over by the earliest settlers and flourished beside native plants, but the exotic, more important remedies of

the time continued to be imported.

Meanwhile, the wealth of North American botanicals was being investigated and employed by the settlers. Dr. Christopher Witt (1675-1765), botanist, mystic, and physician, planted one of this country's first botanical gardens at Germantown in 1728. The site is marked today by a monument on the grounds of Germantown High School.[12] John Bartram (1699-1777), a self-educated American botanist, scoured the countryside for plants unknown in Europe. He was perpetually on the lookout for medicinally active plants. In fact, at that time an interest in botany practically assured an interest in medicine. John Bartram wrote a preface and appendix to Thomas Short's *Medicina Britanica* (1751), in which he described medicinal plants native to America.[13]

Benjamin Smith Barton (1766-1815), another American botanist and lecturer in materia medica at the University of Pennsylvania, published *Collections for an Essay Towards a Materia Medica of the United States* in 1798. In it he surveyed the therapeutic value of many American plants. He named two species of *Geranium* as astringents, *G. maculatum* (Spotted geranium) for use in cholera of children and *G. robertianum* (herb robert) for treating nephritis. Uva ursi (*Arbutus uva-ursi)* was also included as a treatment for nephritis and gonorrhea. Barton named many common trees as possible substitutes for Peruvian bark, including several oaks, wild cherry (*Prunus virginiana),* common sassafras (*Laurus sassafras),* and persimmon (*Diospyros virginiana).* It is doubtful that these remedies were effective, but interesting that almost everything was tried.

During the late eighteenth century, professional medicine was taking hold in the United States, especially at Philadelphia,[14] through the founding of the Pennsylvania Hospital (1751), the University of Pennsylvania Medical School (1765), and the College of Physicians (1787). Interest in a "Physic Garden" for teaching purposes and as a source of medicine was expressed by prominent physicians of the time. Drs. Thomas Cadwalader, Thomas Bond, William Shippen, Sr., John Redman, and John Morgan heartily supported the idea of a garden at the Pennsylvania Hospital. Dr. Benjamin Rush's desire for a garden at the College of Physicians is recorded in the first volume of the *Transactions* of the College (1793). For several reasons, chiefly the Revolutionary War and the yellow fever epidemics which followed it, neither garden was realized at that time. It was not until the twentieth century that these doctors' ideas were acted upon.

The establishment of a medical school and an academic organization of physicians were important steps toward the development of medicine as a science. These institutions provided an arena for discussion and debate concerning modes of treatment and the efficacy of various regimens. Medical students and doctors would present evidence, primarily by case histories, to substantiate or refute specific treatments. Although mere rudiments of the scientific method as we know it, these discussions were the basis for a scientific ethic in medicine. Treatments were thereby assessed in terms of empirical evidence more extensive than the case clientele of a single doctor could have provided.

Nonetheless, eighteenth-century methods were crude, and circumstantial conditions uncontrolled. Reliable statistics were difficult to obtain. Many instances of "proven" cures were the result of coincidence. Diseases with similar symptoms, yet different etiologies, led to conflicting interpretations of the effectiveness of drugs applied.

Botanical drugs varied in strength, moreover, according to the time and region of

harvest. Therefore, doses could not be controlled or standardized. Many drugs were harmful if absorbed in too great a quantity, which led them to be discredited, even when appropriately applied. Perhaps more serious at this time, before the advent of the germ theory of disease, asepsis, and the discovery of antibiotics, in many cases cures were not available and knowledge of how to control the spread of disease was lacking. For example, one of the influences under which physicians of the eighteenth century were laboring was Boerhaave's theory of fluids. Medicines were applied to thin or "incrassate" the blood, counteracting and changing "acid and alkaline acrimonies and various other morbific matters."[15] Bleeding and purging were often practiced without restraint and frequently led to the patient's demise.

All of these factors led to the ironic circumstance that physicians, men of science, had identified the actions of medicinal herbs: purgatives, emetics, diaphoretics, and diuretics, but their application to diseases was too often inappropriate and as a result ineffective. Only a very few of the vast armamentarium of medicinal herbs of this period are of any value in modern medicine.

The medicines in use during the Revolutionary War were a strange combination of blessings and curses. Peruvian bark was given for all fevers; opium was used to ease pain; jalap, rhubarb, and ipecac were administered as cathartics or emetics for almost any condition. Seneca rattlesnake root (*Polygala senega),* one of the few important native plants, was sometimes applied in conjunction with Peruvian bark. Camphor (*Cinnamomum camphora)* was used as a cooling agent in fevers and delirium, and also for venereal disease. Turpentine oil was applied to wounds as a cleanser, often in conjunction with resin of myrrh. Benjamin (*Styrax benzoin),* olive oil, and bread-and-and-milk poultices were also used to dress wounds. Other articles which appeared in medicine chests of the Continental Army were cinnamon, orange peel, conserve of red roses, and spirit of lavendar, along with chamomile flowers (*Anthemis cotula),* melissa or lemon balm, aloe vera, squill (*Urginea skilla),* wild senna (*Cassia mirilandica),* gentian root (*Gentiana lutea),* and balsams of Copaiba, Peru, and Tolu.[16]

The Revolutionary War prompted the publication of the first *Pharmacopoeia* in the United States, compiled at Lititz, Pennsylvania, by Dr. William Brown of Virginia in 1778. It was a modest compilation, described on the title page as "Especially adapted to our present Poverty & Straitened Circumstances. . . ."[17] It is more accurately described as a formulary which listed only the most important medicines and directions for compounding them. In addition to those already mentioned, we find reference to ginger and licorice roots and the old standbys, sassafras and sarsaparilla. Rice, barley, and toasted bread waters served interchangeably as "universal potions."

Coste's *Compendium Pharmaceuticum,* a publication on the same order as the *Lititz Pharmacopoeia,* was prepared at Newport, Rhode Island, in 1780 by Jean-Francois Coste for use by physicians of the French army in North America. It is surprising that many more examples of the local flora were prescribed medicinally by this foreigner. We find couch grass, yellow dock roots, elder blossoms, violets, colt's foot, roots of wood chicory, borage, watercress, Newport wood sorrel, dandelion, coriander seeds, and fresh horseradish among the ingredients for remedies listed. A recipe for Aromatic Wine is given as follows:

Take of One, or several, or of all similar (aromatic) drugs, viz. the flowering tops of lavendar, rosemary, wild thyme, thyme, and sage	one handful
Sal ammoniac	i oz.
Digest in red wine	vi oz.
to be used externally as a poultice.	20

This recipe brings us to pot herbs, for we find that they too were put to medicinal use. These charming plants are still about; many grow outside our doors and in open fields, anonymous sentinels of the past. Others have moved from the medicinal to the culinary art. Many are still available as herbal preparations designed to restore and promote health. In Philadelphia today, the Penn Herb Company, Ltd. does a brisk trade at 2nd and Spring Garden Streets, as it has done since 1924. Here one can buy dried herbs by the pound, including many of those available during the eighteenth century: ipecac, jalap, Seneca rattlesnake root, pink root, ginseng, as well as more familiar savory herbs. Penn Herb Company also offers "Special Herb Blends," organized according to "Doctor's Diagnosis or Layman's Description" of the disease. Many of these uses have not changed: hyssop, senna pods, rhubarb, and aloes as laxatives, ginseng and chamomile as cure-alls.

For those who prefer to entrust their health to capsules and pills, there are many delightful windows available on the botanical heritage of the eighteenth century. As previously mentioned, the College of Physicians and the Pennsylvania Hospital afford living examples of medicine of the past in their herb gardens open to the public, as do the Pennsylvania Horticultural Society and the Morris Arboretum in Chestnut Hill. Bartram's House and Garden is another botanical marvel out of the past. A little further afield, Longwood Gardens in Delaware County offers a medicinal plant garden, and Historic Yellow Springs in Chester County is planning to plant such a garden.

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A Cloud of Witnesses*

By FRED B. ROGERS, M.D.†

In *Ruddigore,* a comic opera by Gilbert and Sullivan, the long-departed forebears of its noble hero step out of their portraits on moonlit nights to speak to him and to each other. The first production of *Ruddigore* took place in London, England, in 1887 — the same year that the College of Physicians of Philadelphia celebrated its Centennial. Few are now living who go back to that year, but by then this College had accumulated a rich collection of portraits representing its founders, presidents, fellows and friends. And in the subsequent 89 years we have added many more. Time available this afternoon does not permit me to describe all of the subjects and artists, but I will list a score of these portraits and portraitists to salute their value as Americana, Philadelphia and medical lore.

The subjects begin with Dr. John Redman, a founder and first president of this College, who was born in Philadelphia in 1722, graduated in medicine at the University of Leyden in the Netherlands in 1748, and served as president of this institution from 1787 until shortly before his death in 1808 at age 86. His portrait shows him wearing a Quaker gray jacket, although he was an active Presbyterian throughout his long life. This somber attire is a striking contrast to the vivid scarlet robe from St. Andrews University in Scotland worn by a much later president, the eminent surgeon Dr. W. W. Keen, who departed this life in 1932 at age 95.

This year, during the Bicentennial celebration in our nation's birthplace, Philadelphians are very aware of places such as this College Hall, with its library, museum and art gallery. Special Bicentennial lectures, the rotunda historical display, and many other activities have heightened our awareness and appreciation of these treasures. We are adding several new portraits and restoring several old ones in 1976, to continue a fine tradition.

The cloud of witnesses gathered on the walls of this building, eminent physicians and surgeons, reflect the struggles and achievements of distant and recent times. These are our forebears, professional and lineal, who silently watch us and speak to us through historical records. Before mentioning today's portrait subject and painter, let me list my favorite twenty portraits and artists in this pantheon. Their varied names and artistic styles are fascinating links to posterity:

Dr. John Morgan, painted by Angelica Kauffmann; Thomas Cadwalader — Charles Willson Peale; Benjamin Rush—attributed to Benjamin West; John Carson — Rembrandt Peale; William Shippen, Jr. — Gilbert Stuart; William Potts Dewees — John Neagle; Philip Syng Physick—Henry Inman; Nathaniel Chapman—Thomas Sully; Thomas S. Kirkbride—Howard R. Butler; S. Weir Mitchell—Franz Dvorak; William Osler — John Singer Sargent; Jacob Mendes Da Costa — Robert W. Vonnoh; Oliver Wendell Holmes—Sarah Wyman Whitman; William Thomson—Thomas Eakins; Charles Euchariste de Medicis Sajous — Charles L. Sasportas; Jacob Da Silva Solis-Cohen —

*Remarks on the presentation of Dr. George I. Blumstein's portrait to the College of Physicians of Philadelphia, 14 November 1976.

†Temple University School of Medicine, Philadelphia, Pennsylvania 19140.

William T. Thomson; George E. de Schweinitz—Julian Story; Francis R. Packard—Justin Pardi; Edward B. Krumbhaar—Daniel Garber; John H. Gibbon, Jr.—Charles Hopkinson.

This galaxy of professional stars includes names familiar to us from American medicine and art. They appeal to our sense of history and humanity and fill us with genuine pride. Portraits of some of our living fellows will join them in time, as does that of Dr. George I. Blumstein, painted by Neil Kosh, today. Perhaps these subjects will unite with earlier ones on future occasions by leaving their gilded frames to speak with interested viewers, as did the ancestors of the Baronet of Ruddigore many years ago.

A Medicine for "Sickness of the Spirit"

By HAROLD J. ABRAHAMS, Ph.D.*

Twenty or more years ago the Reverend Leon H. Elmaleh, a native of Gilbraltar and at that time minister-emeritus of the Spanish and Portuguese Synagogue Mikveh Israel of Philadelphia, showed me a "prescription" ascribed to the great physician and theologian Maimonides (Rabbi Moses ben Maimun). Maimonides (1135-1204) was a native of Cordova, Spain, a city which has honored his memory by naming a street after him. His early training included not only a thorough grounding in Talmud at the hands of his father, but also in mathematics, astronomy and astrology, medicine, philosophy and theology. Some authorities report that his mentor in medicine was Avenzoar (1091-1162), resident of Spain, and others that his teacher was Averroes (1126-1198) of Maimonides' own city of Cordova, two of the most celebrated physicians of the Middle Ages, but these claims have not been established.

Because of the persecutions of the Almohades Mohammedans, his family fled in 1160 to Fez, where he further acquired a thorough knowledge of Aristotelian philosophy. He later settled in Fostat (old Cairo) and there supported his family by trading in jewels. Yet his heart was not in commerce, but in religious and medical authorship and practice. His fame as a doctor spread so greatly that he became physician to Saladin's vizier and later, after the overthrow of the Imam (Sultan), to the court of the great Saladin. By some accounts, Saladin's enemy, the Frankish king in Ascalon (presumably Richard Coeur de Lion), requested Maimonides to become his body-physician, but he declined. His services were in such great demand that he wrote to a friend, "I converse with and prescribe for them while lying down from sheer fatigue, and when night falls I am so exhausted that I can scarcely speak" (Friedenwald: *The Jews and Medicine,* Baltimore, 1944). At the same time he ministered to his flock of co-religionists as chief rabbi of Cairo, refusing compensation for his services. Eventually he became the most celebrated Jewish scholar, philosopher and writer of the Middle Ages. In Hebrew literature he is known as "the Rambam," a mnemonic made from his name and title. His gentle heart, which shines out with the love of his fellow man irrespective of ethnic origin or religious persuasion, is well perpetuated in his "Prayer":

Inspire me with true love for my art
And for Thy creatures. O grant
That neither greed for gain, nor thirst for fame
nor vain ambition
May interfere with my activity.
Grant energy to both body and the soul
That I might e'er unhindered ready be
To mitigate the woes, sustain and help,
The rich and the poor, the good and bad,
enemy and friend.
O let me e'er behold in the afflicted and the
suffering
Only the human being.

Maimonides is known in Arabic as Abu 'Imran Musa ibn 'Ubayd Allah ibn Maymun. A friend of the son of Maimonides wrote a biography of the great physician in which he quoted Al Qadi al-Sa-'id ibn Sanaa al-Mulk's eight-line verse about him, that opens with the lines:

I deem Galen's Medicine fit for the body alone,
But Abu Imran's for both body and mind ...

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This implies that the Rambam was fully aware of the need of physicians to bear in mind the mental as well as the physical side of a human being. In addition, the fact that Maimonides wrote "A Treatise on Happiness" lends support to the thought that he could easily have been the writer of the prescription which follows:

A Beverage Recommended by Maimonides

for Sickness of the Spirit

(A beneficial and curative prescription)

Rx: Take the roots of the Sabbath, which contain the basis of praise and thanksgiving. Remove from them the kernel of grief and sorrow. Take the flower of the pomegranate of knowledge and understanding, and remove the root of gloom and doubt.

Pound them in a mortar of humility, and brew the whole thing in a vessel of meekness.

Put it aside with the sweetness of the lips and mix it all with the water of good will and kindness.

To be given to the despair-ridden patient to drink for two days, morning and evening.

To nurse him back from the debility of vexatious anger, sweeten all with the essence of patience, to be pleasing before the blessed Master of all laudation and acknowledgment, and let him drink it from the vessel of praise to the blessed Lord, in case of an argumentative attack, and he will be tranquil.

Memoir of Lemuel C. McGee (1904-75)

By LEWIS B. FLINN, M.D.

Lemuel C. McGee was born in New Boston, Texas, on August 2, 1904, and died suddenly on February 28, 1975, after a long, slowly progressing illness. He received his A.B. degree from Baylor University in Waco, Texas, in 1924 and M.D. from Rush Medical College in 1929. In 1927, he was a Fellow under Dr. Fred C. Koch at the University of Chicago engaged in the early investigations of testosterone. He received his Ph.D. following his dissertation, "Biological Activity of Testicular Extracts." He was the proud possessor of a life-size cock with a brilliant comb as an emblem of this research. He interned at the Presbyterian Hospital in Chicago, taught at Baylor University for two years, practiced several years in Dallas, and from 1935 to 1939 was chief of Internal Medicine at Doris Memorial Hospital in Elkins, West Virginia. Following this assignment, he became a research fellow at Harvard University and the Peter Bent Brigham Hospital. In 1940, he was appointed medical director of the Hercules Powder Company in Wilmington, Delaware, a post which he held until his retirement in 1969. He was very active in the field of industrial medicine, and was recipient of the Knudson Award presented by the Industrial Medical Association, and also of the American Academy of Occupational Medicine's Award of Honor.

Nevertheless, he was actively interested in other facets of medicine. He served regularly as visiting internist on the Medical Service of the Delaware Hospital in Wilmington, where his ability in teaching was enjoyed by both the house and visiting staffs. He directed the Gastroenterological Clinic for many years. He was a member of numerous medical associations in addition to those in industrial medicine. He was governor of Delaware for the American College of Physicians in 1948 to 1957; a vice-president of the College in 1957 to 1958; a member of the Credentials Committee and marshal of the annual convention for many years. He was a member of Sigma Xi and Alpha Omega Alpha. He was greatly interested in the Delaware Academy of Medicine and served as its president in 1952 to 1954; he remained a member of its board of directors until 1970. He had been a member of the New Castle County Medical Society, and was president of the Medical Society of Delaware in 1960-1961. He was a member of numerous other organizations, such as the New York Academy of Sciences, Council on Occupational Health of the American Medical Association, Board of Directors of the United Community Fund of Northern Delaware, the Delaware Division of the American Cancer Society, and the Delaware Heart Association. He had been a Fellow of the College of Physicians of Philadelphia since 1945.

He was the author of eighty-eight papers published in medical and scientific journals, and of a Student Manual of Industrial Medicine, published by the University of Pennsylvania Press (3 editions).

After retirement in 1969, unfortunately, his spirit and enthusiasm, which for many years inspired others to greater and greater achievements, began to ebb as his physical difficulties slowly increased. Eventually, he seemed to lose interest in his many and varied

former activities.

He is survived by his wife, Mary Virginia; two daughters, Mrs. Madeleine Nichols of New York City and Mrs. Lenore Luscher of Houston; a brother, Vernon A. McGee of Austin, Texas, and a sister, Mrs. Elizabeth C. Mock, also of Texas.

Memoir of John Harold Harris (1896-1975)

By EUGENE P. PENDERGRASS, M.D., Sc.D. (Hon.)

John Harold Harris, M.D., was born in Kiowa, Kansas, on January 5, 1896, and died at his home in Harrisburg, Pennsylvania, on July 1, 1975, at the age of 79. The immediate cause of death is unknown. His illness extended over a period of three months, the last thirty days of which he was bedfast.

Dr. Harris's adopted parents were very strict fundamentalists, deeply religious people who worked very hard. His father was a "horse-and-buggy" family physician in Kiowa, Kansas, having moved there from Oklahoma in the early 1900s. His income was modest from his practice in a very small rural town.

John H. Harris received his primary education in the public schools of Kiowa. He attended Southwestern College, Winfield, Kansas, from 1914 to 1917, when his schooling was interrupted by World War I. He had had a desire for a medical career from his childhood, and he entered the U.S. Army Medical Corps. He served honorably in France, assigned to the 35th Railway Engineers, and was discharged with the rank of sergeant in 1919. He received a Bachelor of Arts degree from Southwestern College in 1920, having completed his academic requirements while enrolled at Washington University School of Medicine (St. Louis), from which he received his M.D. degree in 1923.

Following his internship at the University Hospital, Oklahoma City, Dr. Harris married LaRue Hamilton at Little River, Kansas.

In 1924 he accepted a position with the Anaconda Copper Company in Great Falls, Montana; he entered general practice in the Montana community one year later, and for seven years provided superior medical care to his patients. It was during those early years of general practice that John Harris realized the great need for radiology to provide important information for better medical care.

John Harris left Great Falls for Philadelphia in 1932 with his wife and two sons, Jack and Bill, to train in radiology with Dr. Henry K. Pancoast at the Hospital of the University of Pennsylvania. That training included participation in the radiology program of the Graduate School of Medicine of the University of Pennsylvania from 1932 to 1934. On graduation, he was awarded a master's degree in Medical Science (Radiology). He was assistant instructor in radiology at the School of Medicine of the University of Pennsylvania in 1933-34.

He became a diplomate of the American Board of Radiology in 1934 and practiced radiology in Harrisburg and Carlisle, Pennsylvania, until his retirement in 1974. He was a member of the Medical Staff of the Carlisle Hospital, where he also served as secretary and president; a member of the Medical Staff of the Seidle Memorial Hospital in Mechanicsburg; consultant to the Dunham Army Hospital, U.S. Army War College, Carlisle, Pennsylvania; and a consultant to the Crippled Children's Hospital, Elizabethtown, Pennsylvania.

Dr. Harris was interested in organized medicine and was an active participant in many organizations. He was secretary of the Harrisburg Academy of Medicine in 1942-44. He was a member of the Dauphin County Medical Society and its president in 1948, a Fellow of the American Medical Association,

a member of the Pennsylvania Medical Society and its president in 1968. He was also a member of the Philadelphia Roentgen Ray Society, the Radiological Society of North America, and the American Roentgen Ray Society. He was a member of the Pennsylvania Radiological Society and was elected president in 1958. He was a Fellow of the American College of Radiology and served as a Councilor in 1959-60. He became a Fellow of the College of Physicians of Philadelphia in 1955.

Dr. Harris was a member of the Pennsylvania Division of the American Cancer Society, serving as its president in 1948-50, and was the recipient of its Sword of Hope Award in 1959. He was also a member of the Board of Directors of the American Cancer Society in 1950-54 and recipient of the Society's Bronze Medal Award in 1958.

Dr. Harris was a member of the Board of Directors of the Capital Blue Cross for 30 years and served as its Secretary for many years. He was a founding member of the Pennsylvania Blue Shield and a permanent member of the Pennsylvania Blue Shield Corporation. He inaugurated the idea that led to the "Relative Value Scale Concept" of determining "fee schedules."

Dr. Harris was a past member of the Harrisburg Rotary Club, a Thirty-Second Degree Mason, and a member of the Zembro Shrine. He had been an active member of the Pine Street Presbyterian Church since 1932 and a member and chairman of its Board of Trustees.

John Harris worked most of the time, but he was well organized. Thus he planned for relaxation and hobbies, which included travel, photography, and golf.

With his wife and two sons, John Harris developed strong family ties which were dominant when they arrived in Philadelphia, and throughout their collective lives they continued to undergird its basic strength with individual achievements and leadership. John and LaRue Harris created a climate of love and strength in their home, and their efforts provided increased opportunities for their two sons to develop into physicians of superior attainments. Mrs. Harris died in 1971.

John Harold Harris had many talents, and one of his greatest was an ability to translate medical information to patients, to leaders in public affairs, and to our legislators. His efforts in that area were manifested in his continuing contributions to medical insurance (Blue-Cross-Blue Shield) and his efforts on behalf of the medical societies of Pennsylvania and of Cumberland and Dauphin Counties.

John Harris had an uncanny ability to organize his thoughts. If he had been associated with a medical school, he would have been an author and teacher of considerable stature. I recall how he once assisted Dr. Pancoast and me with the preparation of a scientific exhibit on pneumoconiosis for the American Medical Association. His efforts and ideas helped greatly in the development of a message that received one of the AMA scientific awards.

Dr. Harris's life was one of happiness at home with his family and of concern, dedication, and responsibility in those areas where delivery of superior medical care was involved.

Memoir of Winston Kinney Shorey (1919-76)

By ELIZABETH KIRK ROSE, M.D.

Winston Kinney Shorey was born in Wheelock, Vermont on September 14, 1919, the only child of Pliny Justus and Lelia Laffo Shorey. An interested teacher encouraged him to apply for a long dormant scholarship at Dartmouth University, where he was elected to Phi Beta Kappa and received his B.A. degree. He then entered the School of Medicine of the University of Pennsylvania, was elected to Alpha Omega Alpha, and received his M.D. in 1943. After internship at the Hospital of the University of Pennsylvania, his medical residency was interrupted by a tour of duty in the U.S. Naval Medical Corps from July 1945 to September 1946. Returning to the Hospital of the University of Pennsylvania, he served as Kinsey Fellow in the Section of Gastroenterology until November 1952 when he was recalled to active duty in the Navy. He was discharged in May 1954 with the rank of lieutenant commander. He then returned to the teaching and practice of gastroenterology in association with Dr. T. Grier Miller at the Hospital of the University of Pennsylvania.

In 1955 he joined the faculty of the School of Medicine of the University of Miami. There he served as associate professor of medicine and associate dean and was chairman of the Medical Board of the Jackson Memorial Hospital. He was also consultant to the Veterans Administration Hospital at Coral Gables and to the U.S. Air Force Hospital at Homestead, Florida.

In 1961 he was appointed dean and professor of medicine at the School of Medicine of the University of Arkansas in Little Rock. At this time the school and its teaching hospital were beset by major problems — inadequate funds, a decline in applications for admission, a high attrition rate in the entering class, and a restriction of available teaching beds. During the ensuing twelve years Dr. Shorey attacked these problems with conspicuous success. There was an increase in the application pool, the curriculum improved, the attrition rate dropped, the faculty acquired its first full time members, and new resident training programs were inaugurated. The number of teaching beds was increased, financial support was obtained from federal funds and other sources. Innovations included a cytotechnology center, a computer program, closed circuit television for teaching, a child study center, a maternal and infant care program, state-wide regional facilities for kidney transplants, additional funds for student scholarships and loans. His contribution to these accomplishments was recognized by a Special Faculty Award for Meritorious Service. As federal funds diminished, Dr. Shorey succeeded in securing support from other sources, at the same time developing a state-wide program for rural health. His success in working with state and federal governments was manifested by a pioneer network of extended medical education and health centers throughout the state. This work was acknowledged formally by a special act of the state legislature. Several cardiac episodes interrupted this extremely heavy schedule, but he persevered and compromised by devoting his energy to the program he initiated of extended medical education and community practice throughout the state. His contributions to the

medical literature were related to medical education and practice and several gastroenterological topics.

In addition to being a Fellow of the College of Physicians of Philadelphia (1951), he was certified by the American Board of Internal Medicine, was a Fellow of the American College of Physicians and a member of the American Association of Medical Colleges, and had been president of his local and vicepresident of the state medical societies in Arkansas. His interest in community and religious affairs was exemplified by directorships in the Visiting Nurse Association, Boy Scouts, and Aid to the Handicapped. He was an elder in the Second Presbyterian Church, a member of the Arkansas Comprehensive Planning Board, and a member of the U.S. Public Health Service Review Committee on Medical School Construction.

Win Shorey's quiet friendliness and sense of humor were associated with an unusual capacity for sustained and effective work whether in practice, teaching or administration. In 1948 he married a medical colleague, Dr. Jeanette McConnell, and their only child, Jeanette McC. Shorey II was born in 1953. Win's interests beyond medicine, his family, and his community included sailing, woodworking and other handicrafts, at which he was most adept. His New England blend of thrift, humor and capacity for hard work was outstanding. Medicine could use more men like Win Shorey.

Memoir of Maurice Saltzman (1894-1976)

By AUSTIN T. SMITH, M.D.

Maurice Saltzman, a Fellow of the College of Physicians of Philadelphia since February, 1952, died on February 1, 1976, at the age of 82. His death terminated a long, active career of professional service to his community as a rabbi, teacher and physician.

He was born in Lithuania on April 15, 1894. He received his Hebrew training in a special preparatory school and entered the Telsha Yeshiva in Telsha, Lithuania, from which he graduated in 1912. He was ordained a rabbi by four of the most eminent rabbis in Lithuania and came directly to Philadelphia, where his papers of accreditation were certified by Rabbi B. Leventhal, chief rabbi of Philadelphia. He went to Atlantic City, New Jersey, where he received his English language education and high school diploma in 1914. From 1914 to 1916 he taught Hebrew in Hebrew schools and privately. In 1916 he entered Temple University as a pre-medical student while continuing to serve as rabbi of Congregation Ahav Zedek in Camden, New Jersey, where he was also principal of its Hebrew School and teacher of Hebrew.

In 1918 Dr. Saltzman resigned as rabbi of Ahav Zedek to enter Jefferson Medical College. He continued to teach Hebrew privately until his graduation from Jefferson in 1922 and the start of his medical internship at the Mount Sinai Hospital of Philadelphia, which is now a part of the Albert Einstein Medical Center. He continued at this hospital as chief resident physician from 1923 to 1924. He was appointed to the medical staff of the Department of Otolaryngology in 1924 and attended a graduate course in bronchoesophagology at the University of Pennsylvania. In September 1936 he was certified by the American Board of Otolaryngology and began to devote full time to this specialty as teacher, writer, and clinician. He was appointed assistant professor of Otolaryngology at Temple University School of Medicine in 1942 and was in charge of the Hearing Clinic from 1942 to 1946, as well as associate in the Vertigo Clinic from 1956 to 1968. He also continued hospital affiliations with the Albert Einstein Medical Center and became emeritus otolaryngologist and associate emeritus in the Department of Neurologic and Sensory Sciences.

Dr. Saltzman was a Fellow of the American Academy of Ophthalmology and Otolaryngology and of the Pennsylvania Academy of Ophthalmology and Otolaryngology, and a member of the Philadelphia Laryngological Society, the Philadelphia County Medical Society, the Pennsylvania Medical Society and the American Medical Association.

Dr. Saltzman was particularly interested in the special fields of otology and audiology, and he devoted a good deal of clinical research and investigation to this area, the results of which he published in a book, *Clinical Audiology,* in 1949, a chapter on Meniere's Disease in a book on dizziness and vertigo published by Grune and Stratton in 1968, and forty-six monographs in specialty journals between 1940 and 1973.

Dr. Saltzman is survived by his wife, the former Sophie A. Aaron; a daughter, Mrs. Marguerite S. Bedell, a psychologist; two sons, Edward J. Saltzman, M.D., Jefferson

'49, and Herbert A. Saltzman, M.D., Jefferson '52; and eight grandchildren.

He was a humble man, a gentle man, and a godly man, and above all a man of purpose, endowed with the mental capacity, physical strength, and will to enable him to reach the goals he set for himself. One of the keys to his success must have been his commitment to hard work. He made the most of all of his talents to become a rabbi, teacher, and physician who was respected, loved, and admired by community, friends, and family. I am sure that when it came time to close the book on his long career, he was pleased with his record. He could proudly say, "I did the best I could." No one can do more.

Memoir of Edward Louis Bauer (1890-1976)

By JOHN B. MONTGOMERY, M.D.

Edward Louis Bauer, M.D., was born in Philadelphia on December 9, 1890. He died on February 3, 1976, at his home in the Alden Park Manor in Germantown, where he had lived for more than thirty years, except for a period of temporary residence in the Lutheran Home in Germantown during Mrs. Bauer's terminal illness.

Doctor Bauer received his early education in the public schools of Philadelphia. Following his graduation from Central High School, he matriculated in Jefferson Medical College where he received the degree of Doctor of Medicine in 1914. He represented the seventh generation of physicians in his family, three of these having been graduated from Jefferson. His father, Dr. Louis Demme Bauer (Class of 1890), practiced medicine on Girard Avenue for many years. His son, Dr. Richard Demme Bauer (Class of 1945) of Adelphia, Maryland, represents the eighth generation.

After his internship in the Germantown Hospital, Dr. Bauer served as a resident physician in the Children's Seashore House in Atlantic City, the Philadelphia Hospital for Contagious Diseases, and the Mary Drexel Home. He did additional postgraduate work in Baltimore, Boston, and New York. There he came under the influence of Dr. William Halleak Park, who aroused his interest in immunology and in the modern method of preventing diphtheria by inoculating children with diphtheria toxin-antitoxin.

During the first World War, Dr. Bauer joined the Army Medical Corps as a first lieutenant and "served in various army camps with a tuberculosis examining unit."

Back in Philadelphia, he opened an office on Germantown Avenue and became a pediatrician to the Baby Home of the Lutheran Home at Germantown. He immunized the children at this institution and diphtheria was thereby abolished there. Here, too, he apparently renewed his friendship with his childhood sweetheart, Clair Elizabeth Eisenhard, whose mother had succeeded her father, the Reverend Christian Eisenhard, as superintendent of the Home. They were married in 1918.

In that same year Dr. Bauer joined the staff of the Department of Health of the City of Philadelphia. In 1919 he introduced diphtheria immunization into Girard College and into the parochial schools of Philadelphia. With the continued cooperation of the Department of Health, and by special action of the Board of Education of Philadelphia, Doctor Bauer developed a plan for city-wide inoculation of children which eventually reduced the incidence of this dread disease, diphtheria, in the community from approximately 5,000 cases with 500 deaths a year to only an occasional case. Dr. Bauer's work in Philadelphia was influential in introducing diphtheria immunization throughout the Commonwealth of Pennsylvania. This work subsequently provided the background for modernizing many sections of the Pennsylvania Health Code dealing with communicable diseases of childhood.

On June 1, 1926, Dr. Bauer resigned from the Department of Health to accept an appointment as professor of pediatrics and head of the department at Jefferson Medical

College. He proved to be a dedicated and forceful clinical teacher who gave much time to the hospital ward and outpatient services. There he impressed the students with his practical common sense in emphasizing the effect of the child's illness upon the mother and the family.

Dr. Bauer was sometimes controversial. He never hesitated to express his opinion forcefully on any issue. He was always well informed and could talk on almost any subject, be it medicine, politics, religion or philosophy. Students delighted in listening to his "off the cuff" comments.

Throughout his long career Dr. Bauer participated actively in postgraduate medical education by conducting numerous seminars and postgraduate courses under the auspices of local and state societies, the Rutgers University extension services, the Commonwealth Foundation, the Kellog Foundation, the Department of Health of the State of West Virginia, and the Child Welfare Division of the United States Department of Labor. He also contributed freely to medical literature with numerous papers on child health and several sections in well-known textbooks.

Dr. Bauer was a member of the Philadelphia County Medical Society, the Pennsylvania Medical Society, the American Medical Association, the College of Physicians of Philadelphia, the Philadelphia Pediatric Society (past president) and the American Academy of Pediatrics. He was president of the staff of the Jefferson Medical College Hospital for six consecutive years, and president of the Jefferson Medical College Alumni Association.

The Jefferson Medical College Class of 1945 honored Edward L. Bauer by presenting his portrait to the Medical College and in 1970 Jefferson honored this distinguished graduate by presenting him with the degree of Doctor of Laws. He was especially proud also of being an honorary fellow of the Pediatric Society of Uruguay.

In 1934 Dr. Bauer was appointed director of health services at Girard College. He filled this post with efficiency and dedication for twenty-four years. During his career he also served on the staffs of the Mary J. Drexel Home for Children, Miss Garrett's School for Deaf Children, the Philadelphia General Hospital, the Woods School for Exceptional Children, St. Christopher's Hospital for Children, the Shriners Hospital and the Philadelphia Hospital for Contagious Diseases.

In 1958 Dr. Bauer retired from teaching and the practice of pediatrics and was named emeritus professor of pediatrics at the Jefferson Medical College.

He immediately set about developing his long-standing interest in the origin and development of Jefferson Medical College. In 1964 Dr. Bauer published *Doctors Made in America,* which is a history of Jefferson centered around the lives of prominent members of her faculty. This was followed in 1967 by *The Profile of a Gentleman,* a biography of his late colleague Norman M. McNeill, M.D. Shortly before his death he completed the first draft of a third book, *Miracle of Antietam,* a biography of Dr. Jonathan Letterman, who revolutionized the care of the wounded on the battlefield.

One of the greatest contributions that medicine has made in this century has been in the realm of prevention of disease, especially those due to infections. In present-day critical discussions on the cost of medical care, prophylaxis is mentioned as a key part of most solutions to the problem. This fact makes Dr. Bauer's contributions to public health seem even more significant. Of no less importance has been Dr. Bauer's impact as a teacher of medicine, both in medical school and by the printed page. His place as a distinguished Philadelphia physician is assured.

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